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DIETETIC TREATMENT OF DIABETES.*

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While something can be done for diabetics by medicinal treatment, reliance must be chiefly placed on a regulated diet. The principle of diabetic diet is well understood and does not need recapitulation here. There are some details of the management of diet which are not as generally regarded as they should be and which are quite essential to successful treatment.

For convenience in discussing the diet of diabetes, cases can be grouped under three heads, first the mildest, second the moderate, third the severe cases. Acute cases, which are seen almost exclusively in childhood and early adult life, belong to the last group, as do some of those chronic from the start. Mild cases may gradually grow more severe. Not unfrequently a case is from its inception of moderate or severe type.

Those cases which can be called the mildest will cease to eliminate sugar in the urine when the ingestion of it is forbidden and the eating of starches is limited. They are usually individuals in or past middle life and are often obese and gouty. They are amenable to treatment.

The moderate cases are those from whose urine sugar can be removed, provided they are deprived of foods containing both sugar and starch. The severe cases are those from whose urine sugar can not be removed by depriving them of carbohydrate food. Sugar can be made to disappear from the urine of some of these by depriving them of carbohydrates and simultaneously limiting the amount of albuminous food. In others the same thing can be accomplished by careful diet and medicinal treatment. There are many cases, however, from whose urine the sugar can not be made to disappear by any treatment.

It is necessary to prescribe both the character and the amount of food which diabetics shall take. In order to ascertain to which of these categories a given case belongs, a patient must be placed on a diet from which sugars and starches are excluded. A strict diabetic diet, that is, one containing no carbohydrates, should not be adopted too suddenly. This is the first point on which I wish to place stress. Not unfrequently coma has been precipitated by too sudden and great a change. In other cases indigestion is produced. From the beginning all sugar should be forbidden, and the amount of starchy food eaten should be diminished. The latter ought to be lessened day by day during the first week of treatment, so that all will be excluded, if the patient's condition permits, by the end of that time. Simultaneously with the diminution of carbohydrate food, albuminoids can be increased and especially fats. The amount of urine and the percentage of sugar which it contains should be estimated at least every second or third day.

Gerhardt's test with perchlorid of iron must be constantly made. If it gives a positive reaction, or if there is evidence of acetone or diacetic acid in the urine a greater modification of diet should be made. Indeed, it is safest to enforce Ebstein's rule that under these conditions the amount of albuminoids eaten should be lessened and the amount of carbohydrates increased. The presence of these substances in the urine signifies a great liability to coma. If the reaction is found when severe cases first come under treatment sugar only should be excluded from the diet and the amount of albuminous food should be limited. At the same time the intestines should be cleaned and albuminous indigestion—if it exists—corrected. Alkalies and alkaline mineral waters are also useful under these circumstances.

The mildest cases are discoverable by the disappearance of sugar from the urine before all carbohydrates are withdrawn, and in such cases they need not be. In most cases of diabetes a certain amount of carbohydrate food can be eaten and utilized by the tissues. What this amount is can only be determined by experimenting. The ability of individuals to utilize such food varies from time to time. It is rare that more than 100 grams—3 1/3 ounces—per day of such food can be taken safely.

Those cases which belong to more severe types of the malady, can not be so quickly classified. The effect of more rigorous dieting and often of medicinal treatment must be determined.

In the mildest cases, when it has been determined what diet will prevent glycosuria, that must be persevered with as long as possible, or at least for several weeks. When cases are very mild the dietetic limitation is often so slight as to cause the patient no discomfort and to require little self-denial. In those cases which approach the group of moderate ones persistent restriction does demand self-denial, and is not only irksome but the excess of albuminoids and fats often lessens the appetite too much and cause indigestion.

It should not be thought that because while a patient is on a restricted diet glycosuria does not return, he is cured. A genuine cure is rarely effected. A temporary recovery often is. When a restricted diet has been used for several weeks, or two or three months, if possible it can gradually be made more generous as regards carbohydrates. The mildest cases can be permitted a thin slice of bread at each meal. The amount

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of this can be increased for two or three days and its effect estimated by uranalysis. If it does not cause glycosuria a baked potato can also be tried, and later a little of fruit which contains the least amount of sugar. It is rare that a full normal diet can be resumed. In a small proportion of cases it can be taken after several months of treatment. Recurrences are so usual that it is therefore necessary to inculcate perseverance in watching the urine. If it increases in amount, and especially if it produces a feeling of stickiness when it dries on any object, the patient should at once consult his physician. If appetite grows less or weight of body diminishes, he should again place himself under guidance. It is best for all who have had glycosuria to have, even after apparent recovery, a uranalysis made every four to six weeks for a year or two. In most cases recurrences take place from time to time and careful treatment is intermittently needed.

The diet which in moderate cases is necessary to prevent glycosuria can not be long maintained, and still less can it be in the severest cases, for from it all sugar and carbohydrate food must be excluded. This necessitates a diet almost exclusively of meats and fats. Such a diet soon causes a disgust of the foods permitted the patient, or dyspepsia, and often increases nitrogenous denutrition, which is already excessive. By a reasonable restriction of diet the percentage of sugar in the urine can be kept low. It must be remembered that sugar in the urine *per se* is not harmful. It is only as it indicates the degree of disturbance of nutrition which exists that it is of importance. When by suitable treatment of a moderately severe, or a severe case not more than 500 grains of sugar are voided daily, the case can be regarded as well controlled.

Another point in treatment on which I wish to place stress is that excellent results can often be had by intermittently restricting the diet closely. The advantage of this is not generally appreciated. From two to six times a year this should be done for from two to four weeks at a time. In most cases it is better on one or two days in every week to place patients on a diet which is limited in quantity and much restricted in character. For instance, if a patient is permitted a liberal amount of meats, non-amylaceous vegetables and a little bread, or occasionally a potato, it is well once from five to seven days to prescribe a day of fasting, when only a modicum of albuminous food, a little salad and possibly a small amount of nut-bread are permitted. Water should at these times especially be drunk freely. These days and the longer periods of restriction remove for a time or greatly lessen the natural stimulants of the liver. In prescribing these days and periods of fasting, what has already been said of the significance of Gerhardt's test and of disgust for food and of dyspepsia must be remembered.

To prevent too rapid nitrogenous denutrition fats must be urged on diabetics. They lessen the consumption of tissue-albumin just as carbohydrates do. Unfortunately they are not tolerated in quantities which will enable them to fully take the place of carbohydrates. Butter is well digested and should be eaten freely. Olive-oil should be used generously on salads. Fat meats, such as ham, bacon, pork and mutton should be eaten. These meats, except crisp fried bacon, can best be tolerated when eaten cold, if they must be eaten often. Many clinicians prescribe cod-liver oil also. This is not well taken by my patients. It is apt to cause indigestion and disgust. It can rarely be taken by them in quantities which make it very useful. Many think that a small amount of alcoholic beverage which does not contain sugar, stimulates the stomach and facilitates the removal of fats from it, and therefore their more rapid digestion. I know of no experimental demonstration of this. Undoubtedly it is true that many patients can take fats and oils in considerable quantities with more relish if they take also such an alcoholic beverage. Condiments often help in the same way.

Meats can be permitted at all times, except liver, and oysters, mussels,[1] and such shell-fish as consist chiefly of liver. Meats should not be cooked with flour or bread-crumbs. Eggs are especially useful. Meat, eggs and fish must constitute the staple of a diabetic's diet. Cheese of all kinds is permissible. Some contain in an agreeable form a goodly amount of fat. Butter is the most agreeable form of all fats and can be taken in the largest amount with the greatest pleasure. It should be spread thickly on bread or its substitutes, which may be prescribed. Cream also is agreeable and can be permitted with benefit to most patients, although it contains about 3 per cent. lactose.

Devonshire cream, which is liked by many, contains less than 2 per cent. of lactose and 65 per cent. of fat. Buttermilk contains about 3.3 per cent. lactose. Koumiss contains from 1.6 to 2.8 per cent. lactose, and kephir 1.5 per cent. Milk can be permitted diabetics, except when a very strict diet is prescribed. It usually contains 4 per cent. of fat, 4.5 of lactose, and 4 of proteid. It can only be allowed in small quantities, for a pint of milk contains an ounce and a half of milk sugar.

Several substitutes for milk have been devised. I suggest the following as much the easiest to prepare: Cream contains 25 per cent. of fat, approximately 3 per cent. of sugar, and the same of proteid. If it is diluted one-fifth with water it will contain 5 per cent. of fat and approximately .5 per cent. of sugar and proteid. To the water with which it is diluted, egg-albumin should be added, so as to increase the total amount of albumin. The mixture can be sweetened with saccharin. This will make an agreeable drink, rich in fat, and containing also a small amount of albumin and about 1 dram of milk-sugar to the pint of beverage.

All sugars do not seem to be equally harmful. The same can be said of starches. When glucose is eaten it is most certain to appear at once in the urine of diabetics. Milk and cane-sugar are somewhat better assimilated, and levulose can be taken by many diabetics in considerable quantity without harm. It is, however, too expensive to be used as a substitute for sugar. Saccharin is the most available substitute. Honey must be forbidden, as must milk, cane, and grape-sugar.

Starch, although it is converted into sugar during digestion, is less certain to aggravate a glycosuria than sugar itself. It, and foods containing it, must be forbidden when a rigorous diabetic diet is prescribed and must always be limited, even if it is not forbidden. This necessitates excluding from the diet of the diabetic, flour products—bread, cake, pastry, etc.—cereal foods, rice, corn-starch, potato-starch, arrowroot, sago, tapioca, hominy, maccaroni, vermicelli and farina.

Numerous substitutes for flour-products have been recommended. Bread is the most difficult of all articles of food for diabetics to abstain from. These substitutes are therefore a comfort to them. They can not

1. Kleen and some others permit shell-fish; oysters contain only 2.6 per cent. of carbohydrate.

safely be eaten with great freedom, for most of them contain too much of fat, nor are they relished for long when eaten steadily. They are also for the most part expensive. The following are among the best known of those substitutes: gluten, almond, sago, cocoanut, peanut and Chicago Sanitary Flour. From the last and from cocoanut flour almost all trace of sugar, which is the carbohydrate present, can be removed by raising bread with yeast. The sugar can be almost as perfectly removed from almond flour by washing with acidulated water. These are the best substitutes for wheat bread. Commercial gluten bread contains half as much as, and sometimes more carbohydrate than, wheat bread. It is less palatable. It is much better to give a restricted amount of ordinary white bread than to use it. The bread made of nut-flours should be used very moderately, for it contains so much fat that it is not readily digested. The Chicago Sanitary Flour is the least objectionable on this score. Moreover, patients tire of it after a few weeks. It is well, therefore, to shift from one nut-flour to another and to make a variety of forms of bread, so that weariness of these preparations may be as long delayed as possible. The following receipt is recommended by O'Donnell as a substitute for home-made bread. It contains no starch nor sugar. It will also help to vary a diabetic diet.

Six eggs are to be beaten thoroughly; add a teaspoonful of baking-powder and a quarter as much salt; again beat the eggs. Pour the mixture into hot-waffle irons smeared with butter; bake in a hot oven. Eat hot with butter or flavor with cheese or nuts.

Substitutes for home-made bread should only be used while patients are on a strict diet.

The following vegetables can be eaten by diabetics: cress, cabbage, lettuce, sprouts, endives, broccoli, spinach, chicory, cucumbers, mushrooms, artichokes, green French beans,[2] sauerkraut, cauliflower, dandelion, sorrel, asparagus, onions, leeks, tomatoes.

Root vegetables, such as potatoes, carrots, and turnips, as well as beans, peas, and lima beans, must be forbidden to diabetics, because of the large amount of carbohydrates which they contain. When the diet is relaxed or the case is a mild one a potato can often be permitted. It is usually craved if long forbidden, and is undoubtedly much less harmful than the same weight of bread. Cranberries, strawberries, raspberries, blueberries and oranges contain from 1.5 to 6 per cent. of carbohydrates and can be permitted in mild cases. Ebstein recommends peaches and apricots. All fruits should be forbidden to those who are on a strict diet. Dried fruit, preserved fruit and most dishes flavored with or garnished with fruit must at all times be proscribed. A measured amount of nuts—except chestnuts—can be allowed in mild cases.

Diabetic patients can be permitted to drink water as freely as they desire. Tea and coffee can also be allowed, providing no sugar is used in it and little of cream. Cocoa and chocolate contain a considerable amount of carbohydrate and, as usually marketed, contain an additional percentage of sugar. The frequent or constant use of alcoholic beverages is undesirable, for they both irritate the liver and kidneys, which are unusually active in diabetics. Brandy, cognac, and whisky contain no sugar, and several wines contain little, such as Swiss wine, Rhine wine, Burgundy, Bordeaux, Austrian (red). Wines should not be used, unless in the smallest quantities to flavor foods. Lemonade can be made with saccharin and is unobjectionable.

Several of the European spas are famous as resorts for diabetics. The best known of them are Carlsbad, Neuenahr and Vichy. It is doubtful if the waters in themselves influence diabetics. They may effect favorably concomitant digestive disorders and toxemia. That a short sojourn at these spas is of advantage is too well known to require a new demonstration. Benefit, however, is derived from a change of life, from an outdoor life, from exercise and a regulated diet, all of which such residence necessitates or presupposes.

Kleen,[3] of Carlsbad, most frankly and justly says: "As for the glycosuria, Carlsbad and Vichy water, and doubtless, also Neuenahr water, in moderate and rational amounts recommended at present, which scarcely ever go beyond a liter a day, have no appreciable influence, or one that is extremely slight and uncertain."

Mental depression and excitement are extremely harmful for diabetics. Whenever possible they should be freed from business care, family troubles, or a life of excitement. During the last few years of widespread financial embarrassment I have frequently been able to trace the effect of sorrow and anxiety in the increasing physical trouble of my diabetic patients. Sexual excess should also be avoided by them.

The skin should be kept active by baths and friction. The patient should be carefully protected by woolen or silken underwear from sudden temperature changes. Regular exercise and, if possible, out-door exercise should be taken to ensure deep breathing, good oxygenation of the blood and vigorous metabolism.

The following menu will illustrate what should be prescribed while a strict diet is maintained. On "fast days" a limited amount of these same foods should be recommended.

Breakfast.—Tea or coffee without sugar or cream, one egg and bacon, and two or three slices of nut-bread with butter (Chicago Sanitary Flour or similar substitute for wheat flour).

Dinner.—Bouillon or broths; beef, mutton or chicken; spinach, or asparagus, or wax beans; salad of lettuce or tomatoes, with cheese; black coffee without sugar.

Supper.—Tea or coffee without sugar or cream; meat or fish, or mushrooms; a salad of tomatoes or lettuce, or chicory, etc.; two or three slices of nut-bread.

At bedtime or in the evening, an egg lemonade made with saccharin, can be given.

Use as much butter as possible on bread and oil on salads; eat by preference fat meats.

When a strict diet must be maintained, the cook should endeavor to furnish as large a variety of dishes by skilful preparation from the limited number of articles as possible.

When patients keep a "fast day" it is best to prescribe only two meals a day, one at breakfast time and one about six in the evening. At noon, if it is desired, an egg lemonade made with saccharin, can be taken. The amount of food eaten at the two meals should also be limited.

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2. Kleen says when the seeds are developed string beans contain several per cent. of sugar and starch. They should be eaten when green. Sourkrout when well fermented contains a fraction only of a per cent. of sugar. Celery contains 10 per cent. of sugar and must be forbidden diabetics when they are on a strict diet, but is permitted by some clinicians at other times.

3. Diabetes Mellitus and Glycosuria, p. 282.

COMA DIABETICUM: ITS TREATMENT.*

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In a recent communication a New York writer expresses the opinion that most cases of diabetes mellitus end with coma. A research made by me of all the original death certificates of individuals who have died from diabetes mellitus in the city of New York—Manhattan and the Bronx—during 1899 revealed the fact that among a total mortality from diabetes mellitus of 202, but 60 cases, that is, about 30 per cent., terminated in coma.

The greater number of these sixty instances which were designated as "coma," it is safe to assume were not those of typical diabetic coma. Coma associated with diabetes deserves the appelation "diabetic coma" only in certain well-defined cases. A number of writers have furnished statistical data as to the frequency of coma in diabetes, but have omitted to differentiate between the typical condition and that which is the sequence of complications co-ordinate or intercurring with diabetes mellitus. Moreover, the term "coma diabeticum" is not a very specific one, as the phenomenon is by no means characteristic of diabetes alone. Naunyn,[1] after Kussmaul and Riess, suggests to substitute the designation "dyspneic coma" for "diabetic coma" on account of its greater significance and as it precludes the assumption of its occurrence in diabetes exclusively.

The characteristic symptom of typical coma diabeticum is the peculiar dyspnea, first described by Kussmaul.[2] The patient breathes with great exertion, although there is apparently no obstruction which either the inspired or the expired air has to overcome. Every respiratory muscle is greatly taxed; the thorax expands perfectly in all directions. The inspirations are perfect, intensely deep and long drawn. The expirations are also perfect, but of shorter duration. The respiratory movements gradually assume a greater frequency, and they may become more superficial, particularly in such instances where the patient has been unconscious for some time; at the onset the circulation remains unaffected, and cyanosis is rarely present.

In this clinical picture the singularity of co-ordination of extreme systemic asthenia with the vigorous respiratory movements is most striking.

The pulse is weak and regular, and in the beginning of the coma its frequency is not above 100. In the fully developed dyspneic coma, the extreme weakness of the pulse does not always permit ascertaining of its frequency. Sphygmo-manometric determinations of the tension of the radial artery, made by me on a patient during the prodromic stage of dyspneic coma, showed an arterial pressure equivalent to 70 mm. Hg. During the intensely deep inspiration the instrument recorded a tension equivalent to 50 mm. Hg. Later, when the respiratory movements had become more shallow, a pressure of 15 mm. Hg. was yet determinable.

The body temperature is very low from the beginning of the typical coma, and gradually declines farther as the comatose condition develops; a temperature of 31 to 33 C. (87.8 to 91.5 F.) is not unusual. An increase in temperature, which is occasionally met with in the prodromic stage or at the onset of the coma, is invariably caused by an accompanying complication. The pupils are found dilated in most instances; occasionally, however, they are more or less contracted. Pupilary reflexes may continue to exist until the comatose condition is completely established.

The stage of somnolence is most always preceded by gastrointestinal disorders or febrile affections, headache, anxiety, mental excitement, vertigo, delirium, jactitation, pains in the abdomen or in the hypochondria, or other disturbances. Anxiety, jactitation and mental excitement may be even observed in the beginning of the comatose condition itself. Similar disturbances, though not so well pronounced, are often premonitors of the characteristic dyspnea.

The amount of the diurnal urine during the prodromic stage is rather increased; after onset of the coma the output of urine generally diminishes. A patient of mine voided 4250 c.c. of urine the day preceding dyspneic coma. The urine obtained from the same patient the second next day amounted to but 550 c.c. The urine is nearly always strongly acid; its degree of acidity, according to my observations, varies between .45 and .8. The specific gravity is neither abnormally high nor low; dextrose, which might have been eliminated in increased quantities during the week preceding the comatose condition, in my experience, is most always excreted in not only absolutely, but also relatively, diminished amounts as soon as the dyspneic symptom is well pronounced.

In about 60 per cent. of all the urines obtained by me from patients, while they were in the condition of true coma diabeticum, I found either no glucose at all or only insignificant amounts of it. The diminution or disappearance of glycosuria under these circumstances may be in part ascribed to the inane condition of the comatose diabetic.

The output of ammonia by the urine in diabetic coma is, as a general rule, excessively increased; in a few such specimens of urine, however, which I had occasion to examine, the contained ammonia seemed not excessive in amount.

Albuminous substances in small quantities are most always present in the urine just prior to and during the comatose state. Numerous casts, according to Külz,[3] are always found in the coma of true diabetes. The amount of urinary albumin does not stand in any relationship to the number of casts. These are true casts and possess a characteristic appearance; they have smooth contours, are pale, short and broad, are hyaline, or often decidedly granulated and seem to be ragged. They are rarely covered with leucocytes or kidney epithelium. They occur even frequently in the prodromal stage of the coma. Like Naunyn, I have failed to find these casts in the urine of some cases of dyspneic coma. Aceton, aceto-acetic and oxybutyric acids are frequently present in the urine of the comatose diabetic. Aceton and aceto-acetic acid I have found absent in a number of instances and the presence of oxybutyric acid could not be ascertained by me in some of the urines of patients in coma diabeticum. The urine, in most instances, assumes a deep-Burgundy red coloration with chlorid of iron, which, however, is not always indicative of the occurrence of diacetic acid.

The alkalescence of the blood seems to be somewhat diminished during dyspneic coma. Magnus-Levy,[4] who determined the blood alkalescence, according to Loewy, found in one case of diabetic coma a diminution of blood

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alkalinity equivalent to 217 mg. NaHO in 100 c.c. of blood. In another instance the decrease amounted to 266, and in a third case to 170. In one of my own patients, who survived, I found the blood alkalescence, which was determined after a modification of the Loewy-Zuntz method, during the beginning of coma, to be equivalent to 266 mg. NaHO. In another of my cases, after the establishment of Kussmaul's respiration, the blood alkalescence was equivalent to 318 mg. NaHO in 100 c.c. of blood. The exhaled air in coma diabeticum possesses a peculiar odor, likened by all observers to that of aceton. The odor, however, whether due to aceton or not, I deem not characteristic of the comatose state; a trained olfactory will often detect it in the exhalation of patients afflicted with a comparatively mild type of the affection.

The symptom-complex as described in the foregoing may even occur in apparently mild cases of diabetes. The most insignificant causes may be factors in the production of diabetic coma. Digestive disturbances, long-continued proteid diet, constipation, bodily and mental exertion, localized affections, as inflammations and formation of abscesses, chloroform anesthesia and other occurrences, predispose to coma. A patient of mine had three attacks of genuine diabetic coma which were called forth in every instance by over-eating.

There is not a single phenomenon which indicates with any degree of certainty the approach of the comatose condition. The appearance of the heretofore described coma-casts may be of diagnostic value, it is true, but I failed to find them in some cases of diabetic coma. The increased excretion of oxybutyric acid may serve as an indication of imminent danger, but v. Noorden[5] relates a case where oxybutyric acid was repeatedly found in the urine in quantities not less than 2 per cent. and where no coma supervened. The same author mentions that Weintraud had made a similar observation. A patient of mine, a female, 24 years of age, who is affected with diabetes mellitus for over seven years, has, during the last three months, while under a rigid fat-meat diet, repeatedly excreted oxybutyric acid in appreciable quantities; at the same time, the patient improved wonderfully, gained in weight and attended to her business, which demands much mental activity. She does not complain of lassitude and experiences no paroxysms of somnolence.

The alkalescence of the blood apparently does not furnish a clue to the threatening coma. The degree of blood-alkalescence, to be sure, is quite low in the advanced stage of diabetes, but the diminished degree of alkalescence, as I have frequently observed, is by no means solely characteristic of the pre-comatose state. I have observed the same low degree of alkalescence in apparently healthy individuals and in patients afflicted with diverse disorders.

After the dyspneic coma is well developed, death generally ensues within twenty-four or forty-eight hours. Non-dyspneic coma undoubtedly forms a great percentage of the cases of coma accompanying the advanced stage of diabetes mellitus. A goodly number of the cases of coma which occurred together with diabetes and which in the certificates of death are rightfully designated as "direct cause of death," have nothing at all in common with the genuine coma diabeticum.

The coma is atypic and only pseudo-diabetic in all such instances when it is the outcome of intercurring affections or complications. Exhausting diseases like phthisis pulmonum and hepatic cirrhosis frequently terminate in coma. When one of these maladies or a septic infection occurs together with diabetes and death supervenes by coma, the latter, in most instances, is of the atypic, that is, the non-dyspneic, type. The coma is most always of the latter type when affections of the central nervous system concur with glycosuria or the diabetic condition.

Chronic interstitial nephritis or pyonephritis does not infrequently occur together with diabetes. Uremic coma differs from true diabetic coma in its non-dyspneic character.

The pathogenesis of diabetic coma has been made the subject of investigation by many an observer. On this occasion it is neither opportune nor to the purpose to relate the results of my own work in this direction. Of the hypotheses which have been advanced to explain the origin of dyspneic coma, I mention the following:

1. Petters[6] was the first to advance the theory that diabetic coma is the result of an autointoxication from aceton. The same observer proved the existence of acetonemia.

2. Klemperer[7] is of the opinion that as yet unknown toxic substances are produced in the course of the diabetic affection. These poisons cause a specific disintegration of the protoplasm whereby aceto-acetic, and particularly oxybutyric, acid is produced. The toxic substances, when accumulated, call forth coma by paralyzing the brain.

3. Schmitz[8] concludes that diabetic coma is due to the action of poisons which are of intestinal origin; he bases his assumption on the fact that in the latter stage of diabetes the feces possess a very offensive odor and that it is possible to avert coma by producing free evacuation of the bowels.

Stadelmann,[9] and with him Minkowski, Naunyn and von Jaksch, trace the origin of coma diabeticum to an acidosis, an acid intoxication. The typical diabetic coma, according to the view of these observers, is, therefore, an acid coma. The increased ammoniacal excretion by the urine in advanced grave cases of diabetes mellitus serves as an indicator of the degree of acidosis. Levorotatory oxybutyric acid is the principal factor in the production of diabetic acidosis, but aceto-acetic acid, lactic acid or fatty acids may occasionally also call forth an acid intoxication.

Stadelmann's theory of the production of coma diabeticum has more adherents at the present day than any other hypothesis which has been advanced to explain the occurrence of this phenomenon. The modern alkali therapy of dyspneic coma is based on the assumption of an acidosis.

Stadelmann[10] was the first to recommend sodium carbonate for the neutralization of the oxybutric acid in cases of acid-coma. In order to prevent localized abscesses, which are often the result of subcutaneous injections of concentrated sodium-carbonate solutions, and to speedily increase the blood alkalescence, Stadelmann proposed to inject the antacid intravenously. A normal-salt solution in which from 3 to 5 per cent. sodium-carbonate has been dissolved will not cause any untoward effects if directly introduced into the blood-current. The intravenous injection of sodium carbonate or bicarbonate has not fulfilled the expectations entertained. It is true, in many instances, an immediate improvement takes place after the infusions, but they afford only temporary relief. The lethal termination in coma, in the vast majority of cases is only deferred from twenty-four to thirty-six hours, and but few cases are on record in which coma had definitely subsided. The introduced alkali does not seem to exert a specific influence on the

acidosis and the transitory relief afforded by the infusion appears to be due simply to the blood dilution.

Naunyn[11] believes that dyspneic coma, when fully developed, in all probability remains uninfluenced by the alkali infusion.

The failure of the alkali therapy, in fully developed coma diabeticum, may be due to advanced tissue-changes which have been called forth by acid-intoxication and which can no longer be counteracted by an increase of alkalinity.

The alkali therapy may be employed with better prospects of success in the prodromic stage of diabetic coma. As soon as the first symptoms of the approaching comatose state set in, sodium bicarbonate, 15 to 30 grams daily, should be administered. There are instances on record where twice and three times this dose was given. The sodium salt should be continued until all signs of threatening coma have been dispersed. Naunyn, for prophylactic purposes recommends the continued administration of sodium bicarbonate in all such cases where the urine gives a strongly positive reaction with ferric chlorid.

While, as a general rule, I have seen good results following the prophylactic administration of sodium bicarbonate, coma was not prevented by it in some cases which have been under my observation. In the fully developed coma diabeticum, the alkali therapy proved such a failure in my hands that I have now relegated it to oblivion.

I have employed precipitated calcium carbonate for the past eighteen months in a variety of glycosuric disorders. As it had answered well in some instances, I concluded to prove its efficacy also in the comatose state of diabetes. I report the following two cases of typic dyspneic coma concomitant with diabetes mellitus, in which precipitated calcium carbonate was administered:

CASE 1.—R. A., female, aged 68 years; German, fifty years in the United States, widow, mother of three children.

Anamnesis: Family history negative; patient felt well until three years ago, when the family physician diagnosed diabetes mellitus. She had lost during this period about 17 kg. in body weight. In the last three months the patient had frequent attacks of vertigo, during one of which she fell and received injuries on the right hypochondrium. She has been under a diabetic regimen from time to time.

February 6, 1900: Pronounced emaciation and weakness; somnolence; cheeks flushed; pupils dilated; heart arrhythmic; pulse, 108; tension of right radial artery, 70 mm. Hg.; left radial artery, 160 mm. Hg.; temperature (rectal), 37.2 C.; respiration deep, 20 per minute; liver apparently normal; blood alkalescence, 266 mg. NaHO; abdomen inflated, ankles edematous. Urine: total amount in twenty-four hours, 3600 c.c.; color, Vogel's scale No. 3; transparency normal, odor normal, consistency normal; reaction acid, .45 deg., specific gravity, 1023 at 15.5 C.; total solids, 192.92 grams; no deposit soon after being voided.

Salts of hydrochloric acid increased; salts of sulphuric acid increased; salts of phosphoric acid, namely, alkaline and earthy phosphates, increased; salts of carbonic acid increased; free ammonia, none; carbamid, 1.2 per cent., or 43.2 grams; uric acid, normal ratio; xanthin, traces; creatinin, appreciable quantity; hippuric acid, traces; urobilin diminished; urine indican, normal quantity; nucleo-albumin, normal amounts; serum albumin present in considerable quantity; nucleo-albumin, normal amounts; serum globulin present; biliary acids, absent; fatty matters, traces; pus, absent; glucose, 3.22 per cent., or 115.92 grams in 3600 c.c. urine; glycuronic acid combinations, absent; aceton, present in small amount; diacetic acid, present; oxybutyric acid, present in appreciable amounts.

Microscopically: Uric acid, urates, calcium oxalate, calcium sulphate; round, columnar and squamous epithelium; short hyaline casts (Külz-Aldehoff's).

Treatment: Sodium bicarbonate, 5 grams per os every hour.

February 7: Comatose condition more fully developed. Pulse, 110; pulsatory dilatation and contraction of right radial artery hardly determinable; of left radial artery, much stronger. Respiration, 28 per minute; intensely deep inspirations. There is a peculiar odor penetrating from the mouth, which, however, is not alike to that of aceton or oxybutyric acid.

Treatment: Two liters of physiologic salt-solution by enteroclysis every four hours, to be followed after evacuation of the bowels by enteroclysis of 2 grams calcii carbonas præcipitatus, suspended in one liter of water of 42 C.; strychnin camphoricum, .0005 grams, hypodermically every six hours; with exception of water, all ingesta were withdrawn.

February 8: Comatose symptoms have disappeared. The treatment is continued in the same manner. Patient is permitted to take 100 c.c. milk every hour and a half. Also water and cracked ice ad libitum.

February 9: Patient is able to sit up. The alkalescense of blood is equivalent to 373 mg. NaHO. The urine gives but a faint reaction with chlorid of iron. The enemata of salt water are continued twice daily. Precipitated calcium carbonate is ordered to be given in 2-gram doses every two hours, and strychnin sulphate in tablets of .001 each three times a day. Diet limited to milk.

February 13: Improvement continues. Urinary glucose, .75 per cent. in diurnal output. No aceton. Gerhardt's reaction negative.

Treatment: Lavage of bowel with normal salt-solution every morning. Sodium bicarbonate, 4 grams every two hours. Strychnin sulphate continued. Diet still limited to milk on account of chronic nephritis.

February 18: Urinary glucose, 1.5 per cent.; albumin diminished; a few hyaline casts. No aceton; no aceto-acetic acid. Drugs and diet continued.

February 25: Urinary glucose diminished; albumin increased; hyaline casts; no aceton, no aceto-acetic acid. Drugs and diet continued.

March 1: The patient is up and about, but is very weak and restless. Complains of headache, tremor and vertigo. Treatment as heretofore. Strychnin is withdrawn and morphin in doses of .015 gm. substituted.

March 4: Urine, glucose, 1.25 per cent.; no aceton nor diacetic acid.

March 14: Urine, diurnal output, 1200 c.c.; acidity, .35 degrees; specific gravity, 1014; glucose, .75 per cent., or 9 grams in 1200 c.c.; albumin, .75 per cent. (Esbach); hyaline casts, no aceton, no diacetic acid.

March 23: Urine, glucose, .75 per cent; albumin present; hyaline casts; no aceton, no diacetic acid.

March 29: Patient was able to come to my office. Heart is in better condition; bronchorrhea; arterial tension, right radial artery, 100 mm. Hg.; left radial artery, 160 mm. Hg.; arteriosclerosis. The sides of the neck are noduliferous. Liver apparently normal. Abdomen somewhat inflated. Alkalescence of blood, 373 mg. NaHO. Patient complains of the milk diet. Medicines as heretofore. Diet unrestricted.

April 7: Patient had a slight attack of hemiplegia of the right side. Aphasia present, but not complete. Treatment consists of sodium and ammonium iodid, strychnin, bicarbonate of soda. Irrigation of bowels with physiologic salt-solution.

April 10: The hemiplegic symptoms have almost totally disappeared; patient can converse as before the attack. Treatment continued as above, but hydriodic acid is substituted for the sodium and ammonium iodid.

April 12: Patient, under the circumstances, feels comfortable, but complains of weakness and restlessness.

April 13: Attack of typical dyspneic coma resembling very much the one of February 7. Treatment, the same as in the last attack, viz., two liters of physiologic salt-solution by enteroclysis every four hours, to be followed after evacuation of the bowels by enteroclysis of 2 grams precipitated calcium carbonate suspended in 1 liter of water of 42 C. Strychnin

camphoricum .0005 grams, hypodermically every six hours. Nothing but water allowed for ingestion.

April 15: The comatose condition has completely subsided; patient is totally exhausted and near collapse, involuntary micturition and defecation. Treatment: Enteroclysis discontinued; strychnin camphoricum as above; milk.

April 17: The patient is extremely weak, but possesses her full senses and is able to speak. Involuntary micturition and defecation.

April 18: Death by collapse.

CASE 2.—C. S., female, aged 60 years; Russian; thirty years in the United States; married, mother of three children.

Anamnesis: Family history negative. Patient is afflicted with diabetes for almost eight years. She has been repeatedly on an antidiabetic diet; she, however, did not keep it up long enough to be benefited by it. Bulimia was always present, even in her younger days, long before diabetes was recognized. Of late she complained of extreme weakness and lassitude, of attacks of drowsiness and of obstinate constipation.

March 30, 1900: Patient is lying in bed, in an apathic and somnolent condition. On being aroused she answers the questions intelligently enough, but in a peculiar drawling manner. Her countenance is flushed and she complains of pain in the occipital and umbilical regions. There had been no movement of the bowels for about twenty hours. Micturition is frequent and involuntary. Her general appearance is quite good. The odor emanating from the mouth is similar to that of aceton. The pupils are rather dilated. The tongue is not furred. Temperature, rectal, 38.6 C.; pulse, 98; pulse tension, 110 mm. Hg.; heart-beats, regular, but somewhat accelerated; respiration, labored and deep without inspiratory stridor; liver and spleen of normal caliber. There is an old umbilical hernia, which, however, causes no trouble whatsoever. Abdomen greatly inflated. No local edema anywhere. Alkalescence of blood equivalent to 266 mg. NaHO in 100 c.c. of blood. Urine, exact diurnal amount not ascertainable on account of involuntary micturition; color, yellow; transparency perfect; reaction, acid, .53 degrees acidity; specific gravity, 1026 at 15.5 C.; carbamid, .5 per cent.; ammonia in increased amount; indican, increased amount; serum albumin and serum globulin absent; glucose, 4 per cent.; aceton, present (Lieben's test); Gerhardt's reaction strongly positive; oxybutyric acid present. (Distillation, determination of melting-point of crotonic acid.)

Treatment: High irrigation of bowel with normal saline-solution; administration per os of calcii carbonas præcipitatus in doses of 4 grams every three hours.

March 31 (sixteen hours later): Dyspneic coma more fully developed. Alkalescence of blood, 318 mg. NaHO; a small increase since yesterday. Temperature (rectal), 35.4 C.

Treatment: Enteroclysis of physiologic sodium chlorid solution, 2 liters every four hours, to be followed after evacuation of the bowels by enterocylsis of 3 grams precipitated calcium carbonate, suspended in 1 liter of water of about 42 C. Strychnin camphoricum, .0005 grams hypodermically every four hours.

April 1: Patient has been conscious repeatedly. Respiration, 32 per minute, and shallow; temperature, 36.2 C. (rectal); pulse, 120, weak and thready. Treatment continued as heretofore.

April 2: Patient has almost fully recovered from the attack of coma, but still complains of slight vertigo and headache. The urine contains nearly 2 per cent. of dextrose and still gives a decided reaction with ferric chlorid. Treatment: lavage of bowel with normal salt-solution twice daily. Calcii carbonas præcipitatus by the mouth, 2 grams every hour. Strychnin sulphate, .001 grams, by the mouth three times a day. Restricted diet.

April 3: Urine, dextrose about 1 per cent. (estimated); Gerhardt's reaction positive.

April 6: Urine, dextrose, 25 per cent. Gerhardt's reaction positive.

April 7: Patient is out of bed; feels much stronger and develops again a morbid appetite. Is not satisfied with restricted diet. Treatment continued as heretofore.

April 8: Urine, dextrose, traces; Gerhardt's reaction positive.

April 9: Urine, dextrose, 1 per cent.; Gerhardt's reaction very faint.

April 10: Urine, dextrose, traces; Gerhardt's reaction very faint.

April 11: Patient is able to leave the house. Feels much stronger. Experiences hardly any dizziness. Urine is free of glucose; the ferric chlorid reaction still occurs. Medicinally, sodium bicarbonate in 3-gram doses every four hours and strychnin sulphate as above ordered to be taken. Diet: milk in small amounts and some carbohydrates permitted, meats and fats ordered to be partaken of in greatly diminished quantities.

April 18: Dyspneic coma, not completely developed, due undoubtedly to over-eating and subsequent gastrointestinal disturbances. Treatment: by enteroclysis of normal salt-solution, to be followed by high enemas of precipitated calcium carbonate, as in previous attack. Strychnin sulphate, .001 gram, hypodermically, every five or six hours. Nothing but water allowed to be ingested.

April 20: Symptoms of coma have again subsided. Blood alkalescence equivalent to 371 mg. NaHO in 100 c.c. of blood. Urine, dextrose absent; faint reaction with ferric chlorid. Treatment: daily lavage of bowel with salt solution; precipitated calcium carbonate, 2 grams every two hours. Mixed diet.

May 3: The patient felt quite comfortable ever since the last attack of coma was dispersed. Urine: glucose, 1.5 per cent.; Gerhardt's reaction positive, but quite faint.

May 19: Patient complains of lassitude and drowsiness during the day. Restlessness during the night. Emaciation is very marked. Urine: glucose, 2 per cent; Gerhardt's reaction decidedly positive. Treatment: lavage of bowel with physiologic salt-solution; sodium bicarbonate per os in 4 gram doses, hourly repeated. Morphin, .015 gm. at 6 p.m. and at midnight. Diet continues unrestricted.

May 21: Urine, glucose, 1.75 per cent; Gerhardt's reaction very decided.

May 24: Urine, glucose, 2.5 per cent; Gerhardt's reaction very decided.

May 25: Patient has again indulged in the pleasures of eating, and has consumed at one sitting vast amounts of delicacies. She feels nauseated and has vomited repeatedly. Constipation is present. Complete anorexia and aversion for food. Treatment: high enemata of bowel with salt-solution; sodium bicarbonate per os in 4-gram doses every hour.

May 27: The condition remains unchanged. Anorexia and aversion to food unimproved. Glycosuria scarcely noticeable. Ferric chlorid gives decided reaction.

May 28: Dyspneic coma, resembling the two previous attacks, but apparently more severe. Treatment: enteroclysis of normal saline solution, 2 liters every three hours, to be followed by enteroclysis of 6 grams, calcii carbonas præcipitatus suspended in 1 liter of water at 42 C.

May 29 and 30: Severity of the attack has lessened. The patient continues in a semi-comatose condition. Treatment continued.

May 31: The condition of the patient is unchanged in the morning. Blood alkalescence at 8 a.m., 266 mg. NaHO. The injections are retained but for a very few minutes. The water flows back slightly discolored, but without formed masses. At 7 p.m. patient is somnolent, but gives intelligent answers. Blood alkalescence at that time, 373 mg. NaHO. Treatment continued.

June 1: Patient is still in the condition of somnolence. Urine free of glucose; gives Gerhardt's reaction. Treatment continued.

June 2: The patient's condition remains unaltered. Treatment continued.

June 4: The patient's condition has changed but little. Treatment with calcii carbonas præcipitatus is continued.

Postscript: The patient died in the evening of June 4. Exitus occurred by exhaustion. No coma.

The two cases reported in the foregoing were those of undoubted typic dyspneic coma. In every case of the five instances in which an attack of coma occurred in these two patients, the phenomena characteristic of coma diabeticum soon abated.

It is true, Patient No. 1 succumbed to diabetes mellitus, but death in her case ensued by collapse, seventy days after her first and five days after her second attack of coma diabeticum. Patient No. 2 was still alive when I saw her yesterday (June 4). The first attack of diabetic coma she experienced on March 31, the second on April 18, and the third on May 28.

It may be surmised that the cessation of the comatose state in the instances mentioned may be due to a mere accident or to enteroclysis per se.

The rather unusual and unfailing control of the coma in every instance, however, forces one to assume that its abatement is rather the result of a specific action of the calcium carbonate. Possibly some of the precipitated chalk had reached a portion of the intestines, where, by the influence of acids upon it, carbonic oxid was evolved, which in one form or the other had found entrance into the blood-channels, there neutralizing the acidosis; possibly the calcium itself, probably after the liberation of CO_2, served as a base with which a toxic substance united to form an inert or innoxious compound. In no instance did I find the calcium output by the urine increased in any noticeable measure.

As precipitated calcium carbonate is but very slightly soluble in water, I facilitate its suspension in that medium by the addition of 25 per cent. its weight of acacia.

In submitting this preliminary communication on the use of calcii carbonas præcipitatus in true coma diabeticum, I must preclude any supposition on your part that this agent should be considered an unfailing one in this condition. Still, the good services this drug and the specific mode of application have rendered will certainly induce me to prove its efficacy in other cases of diabetic coma.

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DISCUSSION ON PAPERS OF DRS. DAVIS AND STERN.

DR. O. T. OSBORNE, New Haven, Conn.—I would endorse all that Dr. Davis has said on the question of when and how the dietetic treatment should be used in diabetes, and when it may be modified. The distinction is most important between glycosuria of dietetic origin and the diabetic condition in which the sugar is made from the proteids and is accompanied by wasting of the body. We all know how many persons go about in apparently good health, until it is accidentally discovered that there is more or less sugar in the urine. If they are hastily pronounced to be cases of diabetes and at once put on a restricted diet, they go down directly. It is, therefore, important to recognize not only cases in which the diabetic regimen is necessary, but also to recognize other cases in which it is not necessary and is positively harmful. I am surprised to learn that there is such a large proportion of men as compared with women—three to one. Perhaps this may be due to greater use of alcohol by men. This leads to a consideration of the cause of diabetes. In a certain proportion of cases, the pancreas is at the bottom of the condition. I would like to believe that all cases of diabetes are directly connected with, or dependent on, the pancreas. It is not essential that there should be a gross lesion of the pancreas. It is possible to have disturbance of function of the pancreas without any actual pathological change in this organ. There may be a condition of overproduction of sugar, and a resulting glycosuria, which is analogous to functional albuminuria. Then there are conditions in which a limited portion of the pancreas may be doing all the work for the entire gland. There may be a certain amount of changed metabolism, or failure of function, which may end in glycosuria. I make the suggestion that some important function of the pancreas is at the bottom of these cases of glycosuria. If this is true, then we should be able to increase the function of the pancreas by proper remedies, just as in diseased conditions of the thyroid we obtain benefit from thyroid feeding.

DR. J. M. ALLEN, Liberty, Mo.—One question bearing on this subject we may consider settled, namely, that the function of the stomach in diabetes is well performed. We know that in order to get sugar into the blood it must be introduced through the medium of food which contains sugar or substances containing sugar. Therefore in diabetes there is a departure from the normal metabolic changes in the food which is dependent on pathologic changes in the digestive tract or perverted function of the nerve-center of the brain controlling the secretion of sugar. It is an accepted fact that this arrest of normal metabolic changes occurs below the pylorus; in my opinion in the duodenum. This portion of the digestive tract is abundantly supplied with blood and nerves. It is connected directly by its nerves with the spinal column, sympathetic nervous centers and brain center. It is the receptacle of the secretion of the liver, pancreas and its own glands. In the digestive process it performs as much work as the stomach itself. By its extensive nervous connection, in my opinion, it is the great reflex center of the gastrointestinal canal. Because of its location and physiological functions it is far more often diseased than the stomach. Chronic inflammation and ulceration of this organ is by far the most frequent cause of diabetes mellitus, either by the pathological changes arresting the metabolic changes in the food resulting in a product which can not be converted into glycogen and which by natural selection is taken up by the absorbents and passed into the blood to be depurated from it by the kidney, or by reflex irritation affecting the sugar centers of the brain, the irritation of which has been demonstrated by Bernard as resulting in sugar in the urine.

If this reflex irritation is continued long it is sufficient to produce organic changes (Brown-Séquard); then the case is hopeless. In confirmation of these facts I desire to report twenty-eight cases of diabetes mellitus which I have treated, all of which had chronic inflammation and ulceration of the duodenum. In seven of these cases I verified the diagnosis by postmortem examination. In one the liver was slightly pale, in the remaining six the heart, liver and pancreas were perfectly normal. In support of the irritation of the sugar center, I have had two cases of pachymeningitis that during convalescence had diabetes mellitus, one case of syphilis on which I made post-mortem and found gummata at the base of the fourth ventricle of the brain. In these last three cases opium had no influence in controlling the amount of either sugar or urine. In the other cases it had a decided effect in controlling both. The conclusion I draw from this is that the only beneficial effect of opium in diabetes is in controlling reflex irritation. The dietetic list suggested by all authors, and even the essayist, points clearly to the fact that the stomach is required to do all the digestion, and food that would require functional action in the duodenum is eliminated, thereby giving this organ rest.

DR. D. R. BROWER, Chicago—I will refer briefly to the clinical history of a case of a woman, 50 years of age, who first came under my care five or six years ago, and I have seen her occasionally since then. She had passed the menopause, but had suffered with nervous symptoms for some time, which she had attributed to "change of life." On examination, I found a

large amount of sugar in her urine. Her history was that she had been treated years before for nervous symptoms which were supposed to be due to a fibroid tumor. She had been treated by Prof. Byford, and having refused operation, she had taken large doses of ergot for a long time. She improved and thought that she had recovered, but the nervous symptoms had returned shortly before applying for treatment. I found a large tumor and supposed that the former tumor had recurred. The large amount of sugar in the urine made any operative treatment out of the question. On account of constipation, she was treated by large colonic flushing; the amount of fecal matter discharged was enormous. She was put on a moderate diabetic diet and on codein. Coincidently, with the disappearance of the fecal tumor, the sugar disappeared from the urine. A few months later, having been in good health in the interval, she returned with her former symptoms. I again recognized a fecal impaction, and again it was removed by colonic flushing. Several times during the past five years, this has had to be repeated, but she had no return of the sugar. This is a case in which the diabetes was due to fecal impaction and intoxication, and it has led me to be more careful in stating to patients, that they have diabetes merely because they have some sugar in the urine. In this case, it was the colon that was at fault.

DR. L. W. ZWIESOHN, New York City—As stated in the paper of Dr. Stern, there are many cases in which sugar occurs in the urine, which are usually pronounced by physicians to be diabetes, and which go rapidly down when put on strict diet. I have in mind the case of a man, who was told that he had diabetes and was put on strict diet but did not improve. He went from bad to worse, lost 30 pounds in four months, had palpitation of the heart, vertigo and sinking spells; he was unable to walk from general debility. I was called to see him and found that he was not doing well; he said that he had been on strict diet for several months. There was at this time no sugar in the urine. If he had been kept on the strict diet one month longer he probably would have died. He was put on a general diet gradually. I watched the effect on the urine and found that the sugar did not return. He made an excellent recovery, improved rapidly, and within three months he has regained the 30 pounds and is attending to business as usual, for the last eight months. Therefore, if we find some sugar in the urine we should not at once tell the patient that he has diabetes, but the case should be studied while on a slightly restricted diet, but not too rigid. Patients should not be frightened by a diagnosis of diabetes, when they only temporarily have sugar in the urine.

DR. T. B. GREENLEY, Meadow Lawn, Ky.—In many cases when a patient comes under treatment for diabetes his chance for living is about the same as in tuberculosis and other diseases of a chronic character. I suggested, if the pancreas is the site of the disease, we should use pancreatin or the pancreas itself in the treatment of diabetes, just as we use the thyroid treatment for myxedema.

DR. E. T. SHELLY, Atchison, Kas.—I have a case in which the glycosuria occurs during some disturbance of the general health. Recently the patient had an attack of erysipelas, and at that time the urine was found to be loaded with sugar: in two days he had an attack of profound diabetic coma. He recovered from this and, in two weeks, he had another attack of erysipelas, and for a few days again had sugar in his urine: two days later it had again disappeared under restricted diet. One point of importance in uranalysis may be mentioned. Occasionally in examining urine with Haines's solution, there occurs no immediate change in color, but on standing for a time, it will precipitate the red oxid. Is this tardy reaction due to the presence of a small quantity of sugar or to something else?

DR. A. C. LYONS—As regards testing for traces of sugar with the copper solution, it is very difficult in such a complex fluid as the urine, because sugar is not the only substance which will precipitate the copper. There are many cases, the urine of which is perfectly normal, but which will precipitate the copper oxid on standing for several hours. However, when there is enough sugar to be of any consequence, it can always be readily recognized by the usual tests, and when it disappears sufficiently to make it doubtful to determine whether it is present or not by the tests, the patient will be greatly improved. The laboratory tests for small quantities of sugar are not applicable to clinical use by physicians generally.

DR. E. H. BARTLEY, New York City—I wish to add my testimony to support what has been said with regard to the diet in diabetes. I am opposed to the extreme diet, and have seen it do great harm; but, on the other hand, I think some modification of the diet necessary. This idea of putting patients on almost an exclusive meat diet, or meat and water diet, is certainly harmful. While attempting to avoid one difficulty, we are almost certain to run into another one as serious. As far as the patient's general health is concerned, we can do as well, or better, with a moderately regulated diet, as by the exclusive diet. While it is admitted that, by the aid of the exclusive diet, we reduce the amount of sugar in the urine, this is not the only point to be considered; the general condition of the patient must be regarded. I have many times seen an outbreak of nervous symptoms with loss of weight, and failing health, while on a rigid, restricted diet, and as soon as it was changed to a modified diet, the patients regained their health, while the amount of sugar was not greatly increased. With regard to the question of the accuracy of the tests for sugar, I think that it is time to abandon entirely the copper test as a means of determining the presence of sugar. I prefer the bismuth test, always taking care that albumin is not present in the urine to be analyzed. There are so many things which interfere with the copper test, that it can not be relied on when small quantities only are present. Where the proportion of sugar is so great that it can be easily recognized by other means, stickiness for example, then the copper test will be liable, but for small quantities it is often misleading.

THE CHAIRMAN, DR. SOLOMON, of Louisville—I would like to emphasize one or two points in the papers just read. The first one is that man's natural diet, the food from which he derives the greatest amount of energy, will consist of about two-thirds carbohydrates, and, safely there can, as a rule, be no considerable departure from this, for any great length of time without the general health and strength showing it. We must not lose sight of the fact that it takes a certain number of calories, or units of heat (force or energy), to run a man from to-day at 6 o'clock till to-morrow at the same hour. Starch is pre-eminent in its importance to supply the required number of calories necessary to keep man alive and at work during the twenty-four hours. Along this line I wish to suggest that the gradual admission of small quantities of starch, or sugar-forming food, would enable the patient to bear the restricted diet better. It is my practice to endeavor to teach patients to do without sugar by allowing them a small cube before food, and giving a smaller piece with each meal, gradually decreasing the quantity. I can hardly agree with Dr. Davis as regards his stress on alcohol and the dangers of its use. I consider alcohol very valuable, since it produces proportionately a very large number of calories or units of heat. Alcohol I regard as an important factor in the dietetic treatment of diabetes mellitus. I fully endorse the remarks of the other speakers, as to the importance of considering the general health of the patient. It is not a question merely of removing the sugar from the urine, but of keeping up the patient's nutrition and strength and maintaining the weight of the body. The scale is a good guide.

DR. J. M. ANDERS, Philadelphia—It gives me pleasure to hear the evidence of professional change of opinion on the dietetic treatment of diabetes, and to see that we are slowly discarding a very rigid diet for a mixed one. It is surprising how small a quantity of starch is really needed to keep up the strength of our patients suffering from diabetes. I call attention particularly to the good effects of small amounts of starchy food in the dietary. When a mixed diet is used, one or two ounces of carbohydrates are often quite sufficient. The main point is to prescribe a definite amount of starchy food and watch its effects, from day to day, on the urine. I use levulose for sweetening for coffee or tea at the table, in preference to saccharose.

DR. W. W. TOMPKINS, Charleston—These cases are very unfavorable to treat because of two things: They will not carry out instructions as to diet, especially if too rigid, and when they feel a little better they discontinue treatment. My plan is to allow a certain amount of carbohydrates in the daily food. In attending the case, we should pay more attention to the general condition of the patient than to the precise amount of sugar in the urine. In fact, sometimes the patients are doing better when the quantity of sugar in the urine is rather large

DR. HEINRICH STERN, New York City—The discussion has not brought out any points in connection with my paper on "Coma Diabeticum and its Treatment." In reply to the question as to the frequency of diabetes mellitus and its relative occurrence in both sexes, out of 1867 deaths from this affection which took place from 1889 till 1899 inclusive, 931, that is nearly 50 per cent. ensued in women. Former authors speak of a mortality of males from 2½ to 3 times as large as that of women.

Glycosuria is only a symptom of diabetes; it is not an entity per se. I have seen it following extirpation of the sublingual glands. I have seen it also occur after removal of the tonsils. Glycosuria may be the result of prolonged chloroform anesthesia. True diabetes, as I have pointed out some years ago already, is not dependent on the mere excretion of glucose. Long before dextrose is recognized in the urinary fluid, the disease has made its appearance. I have substituted for "diabetes mellitus" the designation "diabetic deterioration," for, by careful observation we may recognize a pre-glycosuric stage. The stage of toxemia, most always occurring with diminished or no output of grape-sugar, forms in reality a post-glycosuric state. I think I was the first to use the exclusive milk regimen in diabetes mellitus. My experiments date back to the year 1889. While, in my experience, many patients do very well on the exclusive milk diet, others, after the injection of but 150 or 250 c.c. excrete dextrose. This shows plainly that we have conversion of lactose into glucose in certain cases, while this transformation does not occur in other instances. In other words: chronic glycosuria is not always due to the very same underlying systemic disturbances; the causative factors of diabetes differ widely, and we should not confine ourselves to treat a mere symptom, but we should try to recognize and treat the original affection.

I fully agree with my friend, Dr. Bartley, that the copper tests, as Haines', Fehling's, Trommer's, Elliott's, etc., do a great deal of mischief in the hands of physicians and even in those of physiological chemists. A great many minor constituents, of normal or abnormal occurrence, besides dextrose, bring about copper reduction. Thus it occurs that cases have been treated for years for diabetes, where in reality diabetes never occurred.

If a total meat diet is continued for a protracted period—a period which differs as to its length materially in different subjects—diabetic cachexia with its protean manifestations is apt to be produced. It is necessary that we individualize each single case; that we study minutely the condition and systemic idiosyncrasies of every patient, and that we prescribe a diet suitable for the special case. Routine treatment in diabetes, I hesitate not to say, is responsible for just as many deaths in diabetes as is no treatment at all.

I am opposed to alcohol, as a food as well as medicine. Still, in some cases, especially where the patient was a habitual user of alcohol and where it is of the utmost importance to increase the caloric value of the food, and where a natural aversion against the diabetic diet has been produced, I was compelled to use alcohol. I have made use of alcohol in three forms: First, by ordering Moselle wine; second, by recommending diluted brandy, and third, by prescribing spts. vini rect. together with stomachics and bitter tonics.

Menstruation by Vagina and Eyelids.—A curious case is related by Dolganoff in *Vratch* of September 9, of a young woman with normal menstruation, accompanied by an oozing of blood on the external surface of the eyelids, appearing in minute droplets like sweat. The eyes are otherwise normal.

PROLONGED FEVERS OF OBSCURE ORIGIN.*

R. B. PREBLE, M.D.

CHICAGO.

There are a considerable number of organisms that normally, or at least frequently, cause prolonged fevers, which may be called obscure, only when the localization of the organism is unusual, or the disease appears in portions of the country in which the disease is exceptional. For example, the tubercle bacillus is a common cause of long-continued fevers, but the nature of the disease is usually manifest; the malarial organisms cause cases of prolonged fevers of obscure origin in portions of the country where malaria is not endemic. It is not my intention to consider these cases, nor do I plan to mention such obscure conditions as the chronic recurrent fever (Ebstein), commonly called pseudoleukemia, but to limit this paper to that very common and wonderfully polymorphous disease or group of diseases which Leube so aptly calls "kryptogenetic sepsis." Sepsis is too commonly considered a condition within the exclusive province of the surgeon, and from the conspicuous absence of this subject from most of the text-books upon medicine, one might believe that it is a disease which the medical man is not called upon to treat. This idea, however, is erroneous, and I fully believe that the more serious forms of sepsis are more common in medical than in surgical practice; this is certainly true if I am correct in including under this head a considerable number of diseases at present described as morbid entities. In the present state of our knowledge a concise definition of sepsis, septicemia, septicopyemia, is difficult. It is a combination of infection and intoxication of the organism as a whole by any one of a large number of bacteria and their chemical products, and is characterized by the great irregularity of its clinical course, and by the multiplicity and varying intensity of its manifestations. In addition to this, the infection atrium is unknown during life, and often undiscovered after death.

Etiology. A large number of bacteria have been found in cases of this class, but not all with equal frequency. The various pus cocci are most often found, probably the pneumococcus comes next in order of frequency, and then come such organisms as the gonococcus, bacillus pyocyaneus and bacillus coli communis.

These bacteria may enter through any broken surface, cutaneous or mucous, and because the atrium is often small, or hidden, or has already healed and been forgotten before constitutional symptoms develop, it is impossible clinically and often also at the autopsy to discover it. In many cases we may infer something as to its location; for example, symptoms of an angina often precede the constitutional symptoms; in other cases there are signs of a severe gastro-enteritis; in others, a bronchitis, and so forth. In still other cases the autopsy will show some old and encysted suppurative focus which has furnished, after years of quiet, the bacteria necessary for the constitutional symptoms. The demonstration of the bacteria during life is usually difficult, but is sometimes successful, as is illustrated by the cases of pneumococcus septicemia and septicopyemia reported to this Section last year. It is perhaps possible that the many failures are due to the fact that only small quantities of blood are used in the inoculation of the culture-media. For this to be successful, large numbers of the bacteria must be present, in order that each

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drop of blood may contain bacteria. Blood for this purpose should be drawn directly from a vein.

When one considers that this disease or group of diseases may arise from a large number of bacteria, each of which shows marked variations in virulence; that the individuals infected show varying degrees of resistance to the infection, and that the bacteria may exert their influence upon the organisms as a whole or mainly upon any set of organs, it becomes at once evident that the clinical manifestations are so polymorphous that a detailed description of them is impossible in the brief time allowed, and we can refer only to the various types of cases now described as morbid entities, and leave the more complete description and illustrative cases to the paper, of which this is but an extract.

The cases may be conveniently arranged in two main groups: 1. The systemic group, in which the organism as a whole suffers. 2. The focal group, in which some organ or set of organs furnishes the bulk of clinical symptoms. Among these cases we recognize the following subgroups: *a*, cardiac cases; *b*, pulmonary cases; *c*, gastro-intestinal cases; *d*, hepatic cases; *e*, renal cases; *f*, osteal and articular cases; *g*, dermal cases; *h*, hematolytic cases; *i*, nervous cases.

THE SYSTEMIC TYPE.

The onset may be gradual, resembling that of typhoid, with depression, malaise, anorexia, headache, myalgia, and a temperature; but usually the onset is sharp, with single or repeated chills, followed by rise in temperature, and the constitutional disturbances common to acute fevers. The type of the temperature is oftenest markedly irregular, and interrupted by chills at varying intervals; but there are many variations from this rule, and the temperature may be perfectly regular and continuous at any level, like the temperature of a typhoid; it may be regularly intermittent like that of a typical malaria, or it may be absent altogether. Such temperature may continue for days or weeks.

The pulse is usually rapid for the temperature, even from the onset, a point which may have differential value when the case resembles typhoid, but cases are seen in which the pulse is slow throughout the course.

The patient is much depressed and weakened from the onset; is manifestly ill, although examination shows no demonstrable change in any organ except an enlarged spleen, such as is seen in most infectious diseases. The blood suffers a rapid loss in hemoglobin and red blood-corpuscles. The number of leucocytes may be increased, but are often normal in number or even decreased. These blood-changes may be so marked as to overshadow all other symptoms. Examination for a bacterium is usually without result. The Widal reaction is absent. The diazo-reaction in the urine is frequently present and marked.

The diagnosis of such cases, while simple in surgical practice where some gross infection atrium is present, is difficult when such atrium is lacking. The diagnosis is based mainly upon the exclusion of the more typical infective processes, and in many cases subsequent localization upon some organs removes all doubt as to the diagnosis. It is in the diagnosis of this group of cases that the greatest progress has been made of recent years; many cases formerly classed as typhoid, typhomalaria and malaria are now readily recognized. This improvement is due to the more careful examination of the blood and the discovery of specific serum reactions. Repeated failure to demonstrate the plasmodium malariæ excludes malaria. Persistent absence of the Widal reaction, especially when the diazo-reaction is also absent, excludes a typhoid.

THE FOCAL TYPE.

Localization Upon the Heart.—Here we must place the cases generally included under the heading of malignant endocarditis, which I believe, with Leube, is merely a localized sepsis. Most will agree to his proposition, but many may be unwilling to place here the cases of so-called simple or verrucose endocarditis, so frequently appearing in the course of acute articular rheumatism; but most will agree that the simple and the malignant endocarditis differ in degree but not in kind.

The constitutional disturbances with the endocarditis are such as briefly described above; the recognition of the endocardial process must be delayed often for weeks until the changes in the valves of the heart have led to physical signs. Great care must be exercised in the diagnosis for, because of the anemia and changes in the heart secondary to it, the commoner valvular defects, notably the mitral insufficiency, are frequently simulated. The appearance of diastolic murmurs is of great value in the diagnosis, for they are not often accidental, although I have once heard a persistent diastolic murmur over the heart of a patient dying of sepsis, and found the heart valves normal at the autopsy.

Gastrointestinal and Liver Cases.—Gastrointestinal symptoms not infrequently initiate the clinical course, and this, with the violence of the symptoms, sometimes suggests that the infection atrium is here. The symptoms consist of nausea, vomiting, purging, pain. To these are added the constitutional symptoms, fever, chills, etc., and in a considerable number of cases jaundice, with acute swelling of the liver. Here, perhaps, we should place such cases as have been described under the name of Weil's disease, and here also belong some of the cases which present themselves clinically as acute yellow atrophy, cases which are in reality diffuse systemic infections, with especial localization in the liver.

Articular Cases.—A considerable number of the cases of sepsis show bone and joint symptoms exactly resembling those usually described under the heading of acute articular rheumatism. This last disease is, to quote Sahli, "a faded mirror image of pyemia," and transition cases from manifest pyemia to ordinary acute articular rheumatism have been seen by you all, the transition being so gradual that it is impossible to say where one leaves off and the other begins. For the present, at least, we must consider them as the same condition, the only difference between them being one of degree.

The frequent association of joint pains with hemorrhages into the skin brings us into contact with the *peliosis rheumatica*, another septic condition which can not be separated from the simple purpura, and the *morbus maculosus Werlhoffi*, just as the latter can not be sharply separated from the scurvy.

We have, then, in the cryptogenetic sepsis, a wide group of cases which border upon, if they do not cover, a number of diseases now described as morbid entities; the malignant endocarditis, the Weil disease, and possibly the more intense acute yellow atrophy, the acute articular rheumatism, and the various forms of primary purpura, including the scurvy. In the present state of our knowledge, it is well for us to remember that while these various diseases are described separately, they may all be various manifestations of the same underlying condition, and I believe that this thought will lend clearness to our general conception of this puzzling group of diseases.

In closing, I must mention briefly the general lines of treatment. Having no specific treatment, we can but treat symptoms, and our efforts are directed mainly to supporting the strength of the patient. Hydrotherapy, quinin, iron, strychnia, salicylates, guaiacol, mercurials, and various nuclein preparations are all used. Mention should also be made of the Credé ointment, the anti-streptococcus serum, the bleeding and subsequent intravenous injection of salt solution, all of which at times seem to yield results.

DISCUSSION.

DR. WILLIAM KRAUSS, Memphis, Tenn.—I have observed a number of times, particularly in the autumn, a number of cases of fever neither malarial, typhoid nor tuberculous, which, upon blood examination, showed only leucocytosis. The paper of Dr. Preble was very instructive to me, and I shall follow up those lines and try to verify the observations made.

DR. LOUIS FAUGÈRES BISHOP, New York—We often have cases in which we fail in making a diagnosis, because we insist upon putting them in long-established groups. I have been impressed with the thought that there should be a group of cases that, in popular parlance, we might call blood-poisoning. Such are the patients who run a long course of irregular temperatures after we exclude every possible disease that can be diagnosed by the microscope or by physical examination and about which we can not arrive at any definite conclusions. But such a group must not be made a dumping-place for undiagnosed cases. The suggestion of Dr. Preble that some of these are cases of typhoid is a good one. I was called in consultation to see a case in New Jersey a few months ago. The patient was a woman, of middle life, who had a great deal of pelvic trouble. She was a chronic pelvic invalid. A very clever gynecologist who examined her said there were many adhesions, but no pus in the pelvis. The woman was sick for a long time running this irregular temperature. Then it was thought it might be tuberculosis. I examined the chest and found only a slight amount of dullness at the base of the right lung: I suspected there might be pus there, but the needle introduced at that point did not show any. A careful restudy of the case led me to suspect typhoid fever which had attacked a person already an invalid. I then took some of the blood and got a very good Widal reaction. The case was entirely atypical. It was simply a chronic invalid who had commenced to run an irregular temperature. On that reaction, without symptoms of typhoid, I made the diagnosis of typhoid fever and gave a good prognosis. The woman recovered after prolonged nursing and treatment.

DR. N. S. DAVIS, JR., Chicago—The obscure cases which are difficult to diagnose and difficult to describe are made much clearer by what Dr. Preble has said regarding them. There is one point that I wish to emphasize, i. e., the liability in certain cases of infection through the gastrointestinal tract. This important point has been impressed upon my mind by several instances. I will call attention to two in the paper which I am to read here to-morrow. Another point is the frequency with which, in these cases, cardiac symptoms arise. In prolonged fevers of obscure origin we should watch for an endocarditis. And yet, when we ultimately discover the existence of a cardiac lesion we are not justified in concluding that we have had to do from the beginning with ulcerative endocarditis, but with a septic disease, in the course of which endocarditis has developed. I speak of this particularly, because in meeting other physicians and talking over cases, especially cases of malignant endocarditis, I find that it is usually an endocarditis superimposed on a general sepsis.

DR. ROBT. B. PREBLE, Chicago—In regard to the Widal reaction, I would be unwilling to make a diagnosis upon it; nor would I be willing to exclude typhoid fever in the absence of this reaction. I believe, though, that it can be obtained in the vast majority of cases.

Iron in Eggs for Invalids.—The *Gazzetta degli Osp.* of October 18 states that Dr. Viray feeds hens with salts of iron incorporated in their food. The fowls tolerate the iron perfectly and eliminate it mostly in their eggs, which are thus delicately medicated.

ACUTE ARTICULAR RHEUMATISM—ITS ETIOLOGY AND PATHOLOGY.*

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PHILADELPHIA.

With the exception of a small and gradually lessening number, modern writers consider acute articular rheumatism an infectious disease. The nervous origin of rheumatic arthritis, proclaimed by the elder J. K. Mitchell[1] in 1831, and defended by Charcot, and more recently by Friedländer[2], who places the primary lesion in the medulla oblongata, has been abandoned. More tenacious is the lactic acid theory of Prout, Todd, Fuller, Richardson, and others, according to which rheumatism is dependent on an excess of lactic acid in the blood. I need not bring forth any arguments against this theory. As Maclagan[3] says, the advocates of the lactic acid theory have taken one of the phenomena of the disease and raised it from its normal and subordinate position as a symptom to the rank and dignity of an exciting cause. Edwards,[4] Eisemann, and lately Haig,[5] have modified the acid theory, and replaced the lactic with uric acid, the retention of which in the system Haig considers to be the causative factor in rheumatism. He presupposes the existence of an excess of uric acid in the blood, and that this is driven into the joints, owing to a diminution of the alkalinity of the blood. But not only has he failed satisfactorily to prove that uric acid accumulates in the joints in acute articular rheumatism, he has also drawn a conclusion that is scarcely warranted even in the premise—a pre-existing "uricacidemia"—is accepted; for it is just as likely that if an excess of uric acid does occur in rheumatism, it is a consequence—a symptom, merely—and not the cause of the disease. The very fact that Haig finds uric acid retention in so many affections suggests the thought that, like fever, leucocytosis, or albuminuria, the hypothetic "uricacidemia" is only a symptom.

There are two ways of proving that a disease is infectious: by direct evidence, that is, by the unequivocal demonstration of the causative agent; and by indirect or circumstantial evidence, which rests largely on analogy. I may say that in the case of acute articular rheumatism we are not yet in possession of direct or prima facie evidence; in other words, I do not believe that the cause has been definitely discovered. It is true that a large number of investigators claim to have found the specific micro-organism, but in no instance has indubitable proof of the causative relation of the particular organism been brought. If it were that the micro-organisms hitherto found could not be cultivated, we might, as in the cases of leprosy and malaria, rest content with the mere demonstration of their invariable presence, and not demand, for final proof, the production of the disease in the lower animals; but the organisms which have been found are, for the most part, readily cultivated, and yet it has not been possible to reproduce in the lower animals the typical picture of rheumatism as we see it in man. This fact, however, does not render invalid the proposition that acute articular rheumatism is an infectious disease. The same is true of syphilis, scarlet fever, smallpox, chickenpox, and possibly of whooping-cough and measles; and yet no one doubts their specific nature. The circumstantial evidence in favor of the infectious origin of rheumatism

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is as strong as in the diseases which I have mentioned, although two of their important characteristics are not possessed by rheumatism, viz.: contagiousness and immunity after one attack. Regarding contagiousness, however, I may add that Wagner,[6] of Leipsic, believed it possible, and made it his practice to isolate cases of acute rheumatism in the hospital. As for immunity, it is such a vague concept, and its duration in different diseases varies so much, that it is not out of the realm of possibility that there is a brief period of immunity after one attack of rheumatism, perhaps as long as that obtaining in diphtheria, which, as is well-known, is of comparatively brief duration.

I wish now to take up the facts which, although they do not demonstrate it absolutely, point in an unmistakable manner toward the infectious origin of acute articular rheumatism.

Fever.—While fever may be due to causes other than infection, it is most natural in the case of a continuous fever, like that of rheumatism, to look for a micro-organismal agent. The occurrence of hyperpyrexia is also strongly suggestive of the activity of toxin-producing organisms.

Chill.—At times, as I have seen in several instances, the disease is ushered in by a distinct chill or rigor. I do not mean by this the chilling of the surface which often precedes an attack of acute articular rheumatism, but the initial chill which inaugurates so many infectious diseases, and which indicates that the period of incubation is passed and invasion has begun.

The Occasional Epidemic Outbreak of the Disease.—McClymont[7] and Newsholme[8] have both called attention to this epidemic incidence, and Risse[9] has reported the concurrence of an epidemic of acute articular rheumatism with one of influenza. Edlefsen,[10] McClymont, and Stoll[11] have observed house epidemics of rheumatism, such as we occasionally find in croupous pneumonia, an unquestioned infectious disease.

The Seasonal Influence.—Malaria, typhoid-fever, pneumonia, and influenza vary in their prevalence with the time of year and with meteorologic conditions. The same has been proved to be true of acute articular rheumatism by Edlefsen, Newsholme, and many others. The first-named has shown that, as a general rule, the incidence of acute articular rheumatism increases with the diminution of the precipitation and decreases with increased rainfall. Newsholme confirms this, and finds that rheumatism is more prevalent in dry seasons, when the ground-water is low, than at other times. He found that at Croydon and at Brighton epidemics occurred at a time when the sub-soil water was very low, especially if there had been more than one year of deficient rainfall. In London a low sub-soil water and a high earth temperature are the conditions in which the rheumatic poison finds its most favorable opportunities for activity.

The Complications of Rheumatism.—They are the complications that are pre-eminently characteristic of infectious diseases—endocarditis, pericarditis, pleurisy, and hyperpyrexia. So common is the first that it may readily be considered a manifestation of the disease, rather than a complication. Acute endocarditis is certainly an infectious process under practically all the conditions in which it occurs. It may not always be due to the bacteria themselves, for it can probably be produced by bacterial toxins. In rheumatism it sometimes happens, especially in the case of children, as pointed out by Cheadle,[12] that the endocarditis precedes the rheumatic manifestations or begins simultaneously with them. Thus, in a case of my own, a boy of 8 years, there had been pain and swelling of the knees for less than twenty-four hours when I found a well-marked systolic mitral murmur. Such occurrences strongly suggest that the endocarditis and the joint manifestations are, under these circumstances, due to one and the same cause. Phlebitis, seen in many typical infectious diseases, may also occur in rheumatism, as pointed out by Remlinger,[13] Censier,[14] and others.

Portal of Entry.—The majority of infectious diseases have a demonstrable portal of entry through which the exciting cause invades the body, and if we can prove that in rheumatism there is also a portal of entry we have strongly fortified the infectious theory of the disease. Haygarth,[15] it seems, was the first to state the connection between sore-throat and rheumatism. Trousseau[16] also upheld it, and since then a number of writers have referred to the subject, among others Roos,[17] Bloch,[18] Buss,[19] Gallois,[20] Sacaze,[21] Pettersohn,[22] and lately Packard,[23] who has summed up the relevant literature in an admirable manner. As to the frequency with which tonsillitis or, to use the more comprehensive term, angina, precedes rheumatism, it is variously stated: Stoll[11] gives 5 per cent.; Lebert,[24] 5 per cent.; Gerhardt,[24] 20 per cent.; Fowler,[25] 30 per cent.; Whipham,[26] 24.12 per cent., and Stewart,[27] from 70 to 80 per cent. Some of these figures are unquestionably too large. They include, in many instances, attacks of angina long antecedent—in Whipham's statistics by as many as fourteen years—to the rheumatic attack.

I recently saw a case with Dr. T. R. Currie, of Philadelphia, which seemed to illustrate the pharyngeal origin of rheumatism. The patient was a man aged 31 years, who had had an attack of acute articular rheumatism of seven weeks' duration at the age of 19, and another at 21, which lasted only a few days. Two weeks before I saw him he had been taken ill with sore-throat, and this was followed by an attack of rheumatism of most severe type. In addition to the involvement of the joints, he had an acute pleurisy on the right side and was bathed in the most profuse sweats that I have ever seen in rheumatism. There was no evidence of endocardial or pericardial involvement, but the poor heart-action suggested myocardial changes.

Packard is strongly of the opinion that rheumatic polyarthritis, as well as other manifestations of what Cheadle has called the rheumatic group, may be brought about through the medium of the tonsils; but infection may also enter through other channels. Gradenigo[24] and Bloch[18] have each recorded cases of acute articular rheumatism following otitis media, and recently a case was reported by Kronenberg[28] in which an attack of acute articular rheumatism followed an operation on the nose. Bloch cites instances of rheumatism following felon, furuncle, fistula in ano, and vaccination, and in a case of Sacaze's[21] the attack occurred in a patient who had an infected wound of the foot.

It might be averred that the arthritis in these cases was not rheumatic, but pyemic. In some instances, no doubt, this was true, but hardly in all of them. The course of rheumatism and the influence of the salicylates generally serve to distinguish the disease from the ordinary pyemia. Moreover, the latter has a tendency to lead to suppuration, while rheumatism scarcely ever has; indeed Hué[29] states that no true case of suppuration in rheumatism is on record. He found a total of forty-four alleged cases, but in all of them he discovered internal evidence that made it improbable that they were examples of rheumatism. Körte,[30] in 1880, de-

scribed six cases of suppuration in rheumatism, all occurring in women. It seems strange that one observer should see so many examples of what must be considered a complication of maximum rarity.

There is another possible source of infection in rheumatism—the intestinal tract. I have no evidence to offer in proof of this point, but I believe that careful attention to it may yield some interesting results. That the intestines may at times be the infection atrium has also been suggested by Chvostek.[31]

Direct Transmission from Mother to Offspring.—This, if proved, would be a powerful argument in favor of the infectious nature of rheumatism. Two rather convincing instances are on record—those of Pocock and Schaeffer, which are quoted by Singer.[32]

Contagion.—I have already referred to the subject of contagion. One indubitable example would be decisive, but there are so many possibilities of error in interpreting cases of contagion in rheumatism that we must look upon reports of such an occurrence with scepticism.

BACTERIOLOGY.

I want now to dwell briefly on the bacteriology of acute articular rheumatism. Diligent search has been made for a micro-organismal cause. Some, as Maclagan[3] and Kahler,[33] have thought that this would be found in a miasm allied perhaps to that of malaria, but it seems to me that the resemblance between malaria and rheumatism is very slight.

Bacteriologists have examined the blood, the joints, the urine, the cerebrospinal fluid, and the lesions of the heart, pleura, pericardium, etc. Organisms were found by earlier observers, such as Guttmann,[34] Wilson,[35] Mantle[36] and Bouchard and Charrin.[21]

Guttmann found the staphylococcus aureus; Wilson found a bacillus in the pericardial fluid; Mantle, a bacillus and a micrococcus in the joints in seven cases, and in the blood in sixteen, both in acute and chronic and in gonorrheal rheumatism. Bouchard and Charrin discovered the staphylococcus albus, but only in subacute and chronic cases. Anyone who has made cultures from the living body knows how difficult it is to eliminate the possibility of contamination, and I am inclined to think that the observers I have named, whose studies were made before the present more exact methods were in vogue, dealt with accidental germs. This is the view also taken by St. Germain.[37]

The observations of Sahli,[38] made in 1892, attracted much attention. He found the staphylococcus citreus in the synovial membrane, pericardial exudate, endocardial vegetations, blood, and bronchial glands of a case of articular rheumatism, but not in the fluid of the joints. He concluded that rheumatism was an abortive form of pyemia.*

Very painstaking studies were made by Singer,[39] of Vienna, who, distrusting the examination of the joints and believing that if the organism were in the blood it would be present in such small numbers that it might escape observation when culture was made, examined the urine, hoping that the bacteria at work in the body would be in part eliminated through the kidneys. The elimination of micro-organisms by the kidneys has been abundantly proved—experimentally by Biedl and Kraus[40]; clinically, by Singer, Gwyn[41] and others. Singer's examinations yielded positive results in 59 out of 84 cases of acute articular rheumatism. He found the different forms of staphylococcus and the streptococcus pyogenes, and believed with Sahli that rheumatism is an attenuated form of pyemia. Chvostek[31] took exception to Singer's observations on the ground that organisms eliminated through the urine might have entered accidentally through the mucous membranes, and might have no bearing whatever on the primary disease. His own bacteriologic studies were entirely negative.

Wassermann[42] quite recently, in a case of rheumatic chorea, found a streptococcus which he thinks differs from the streptococcus pyogenes. It grows best in a strongly alkaline medium, which the ordinary streptococcus scarcely tolerates, and is most easily cultivated in hog bouillon containing 2 per cent. of peptone. The observation was carefully made in a single case, but no animal experiments were undertaken to test the virulence of the germs, and I think that we must keep our opinion under advisement.

Riva,[43] on a serum made from horses' joints and synovial fluid, obtained the growth of a polymorphic, spore-bearing organism in eight cases, cultures being made from the joints, the pleural fluid, and the blood. It did not grow on ordinary media. As far as I can determine, no animal or other control experiments were made, yet Riva concludes that he has found the cause of rheumatism. I think that we must adopt the same attitude in this case as in that of Wassermann's discovery.

More important than any of the preceding is the observation of Achalme,[44] who, as far back as 1891, discovered an anaerobic bacillus at autopsy in the body of a man who had died of cerebral rheumatism on the fourth day of a second attack of acute rheumatic polyarthritis. In a second case of rheumatism examined six years later he found the same organism, and subsequently discovered it in the blood of the living patient in six cases—four times pure and twice associated with a micrococcus. The best culture-medium was found to be milk or a mixture of equal parts of milk and bouillon. Animal inoculation produced, among other changes, a marked edema, the effects being the more intense the younger the animal. Guinea-pigs died in from twenty to thirty-six hours, but when inoculated with some of the edematous fluid they perished in ten hours. Achalme does not state whether or not any joint symptoms were present in the animals.

An anaerobic bacillus had been found in 1892 by Lucatello,[45] who seemed to be unaware of the prior work of Achalme. The latter's observations were confirmed in 1897 by Thiroloix,[46] who found the organism in the blood *intra vitam* in five cases of rheumatism; also in one case in the pleural fluid, as well as in the blood. He noted no changes in the joints after intravenous injection in rabbits, but intra-articular inoculation produced marked edema of the joints and of the entire extremity. With the edematous fluid from guinea-pigs he obtained in rabbits, arthritis, pericarditis, and pleurisy. The blood from the human subject had no agglutinating action on the organism; that from the infected guinea-pig had at times such an action. The growth of the organism was markedly retarded by the addition to the culture-medium of salicylates in doses smaller than those necessary to check the growth of other bacteria.

Reports of the discovery of the same bacillus in rheumatism have since been made by Petit and Achalme,[47] Papillon,[47] and Carrière,[48] and recently also by Sawtchenko.[47] The latest observations are those of Pic and Lesieur,[47] who isolated the organism during life from a case of cerebral rheumatism. They found that it grew best in sterile milk, but only under strictly anaerobic conditions. It did not grow on gelatin, but developed

*"Der Rheumatismus ist eine Staphylococcenkrankheit." Stewart had expressed the same view as early as 1881.

in secondary culture on bouillon. It is a long, slender bacillus, slightly motile, and stains by Gram's method. It is pathogenic for guinea-pigs, rabbits, and mice. In guinea-pigs it produces dyspnea, tachycardia, slight fever, and at the moment of death generally a subnormal temperature. Suppuration does not occur. At the point of inoculation a gelatinous edema, poor in leucocytes, but rich in bacilli, develops. There is also pericarditis, but no arthritis. Injection of the edematous fluid into rabbits is fatal in ten hours, the principal lesions being focal necrosis of the liver, edema of the lungs, pleurisy, and pericarditis. The liquid products of the micro-organism seem devoid of toxic properties, but after their injection the animals appear to be immune to otherwise lethal doses of the bacteria. The bacillus is not agglutinated by the serum of patients suffering from acute articular rheumatism or chorea.

Triboulet and Coyon[49] in eleven cases isolated a diplococcus which was associated with Achalme's bacillus in two cases. While not asserting that the diplococcus is the cause of rheumatism, they deny the specificity of the bacillus of Achalme, believing that the latter is present only in complicated cases.

Of the various micro-organisms that have been discovered in rheumatism, the bacillus of Achalme has apparently the strongest claims to be considered the cause, but I do not think the time is ripe for a definitive opinion. In the first place, the various experimenters have not succeeded in producing a disease in animals comparable to articular rheumatism in man; secondly, the organism has not been found with sufficient constancy. Thus, Pic and Lesieur failed to find it in seven instances out of the eight examined by them.

Summing up the bacteriologic evidence then, it may be said that the cause of rheumatism is not definitely determined.

We may consider rheumatism etiologically from two points of view; either as a group of diseases having a multitude, or at least a variety, of causes, which is the view taken by Singer, Chvostek, and others; or we may hold that there is a distinct form of acute polyarthritis, to which the term rheumatic may be properly applied, which has a single cause. The latter seems to me the more correct attitude. I believe that we may have in the case of joint affections a condition somewhat analogous to the pseudomembranous inflammations of the throat. Formerly these were nearly all classed together under the name diphtheria, but now we know that there is only one disease diphtheria—that due to the Klebs-Loeffler bacillus; nothing else deserves the name. With improved methods of investigation we shall no doubt find the organism which is the specific cause of rheumatic polyarthritis.

PATHOLOGY.

I have taken so much time in the consideration of the phases of the subject hitherto discussed that I must make my remarks concerning the pathology of rheumatism very brief.

Joint Inflammation.—In a majority of instances the fluid has been found sterile and the synovial membrane and the periarticular tissues free from germs.* This leads us to the conclusion that the joint changes are probably toxic in origin, a view emphasized by Chvostek, who points out the resemblance of the rheumatic changes to the occasional joint swellings seen after the injection of diphtheria antitoxin. However, anaerobic cultures have not often been made and might lead to different results from those hitherto obtained. The synovial membrane in acute cases is swollen and injected and at times somewhat ecchymotic, and may be covered with a fibrinopurulent exudate. The fluid is more watery than the synovia and is reddish or yellowish in color. Ollivier and Ranvier[50] found proliferation of the cartilage cells and capsules and circumscribed ulceration.

Rheumatic Nodules.—These were first clearly described by Jaccoud and later by Troiser,[51] although they may have been recognized long ago by Froriep. They usually occur in children, but also in adults, as multiple, pin-head or pea-sized bodies—sometimes a little larger—are situated under the skin and are tender on pressure. Microscopically they show a necrotic focus with round-cell infiltration, dilatation of the lymphatics, and thrombosis of the small arteries. Riess[52] believes that they have an embolic origin.

Endocarditis.—You are familiar with the small vegetations that dot the valves, usually just behind the free edge at the lines of contact, and little need be said regarding their general structure. Recently, however, Achalme[53] has made a contribution to the subject of their minute anatomy that merits attention. He divides rheumatic endocarditis into three phases: 1. The edematous microbial phase. 2. The proliferative phase. 3. The cicatricial phase.

The naked-eye appearance of the first stage in one case that came to autopsy a few hours after death consisted in a thickening of the valves to five times their normal thickness; the auricular surface of the valve had lost its polish, and there were slight elevations a few mm. above the free border. The myocardium was softened and of a dead-leaf color. Microscopic examination revealed an edema of the interstices of the tissue of the valve, together with an enormous bacterial invasion and an extensive transformation of the connective-tissue cells into Ehrlich's mast-cells. The edema occupied the entire valve, but predominated at certain points. Least affected was the fibrous expansion of the ring, but the cellular tissue extending from it into the auricle was markedly infiltrated, and the elements almost completely dissociated. The elastic tissue of the auricular layer of the valve was much thickened by the edema and had lost its homogeneous aspect. This was also true of the elastic layer at the free border of the valve. The bacterial invasion with Achalme's bacillus was greater than that seen in any other disease. There might have been some growth after death, although one autopsy was made four, and the other twenty-five, hours post-mortem. The transformation of the connective tissue-cells into the cells of Ehrlich is the most characteristic feature of rheumatic endocarditis. It is much more marked than is seen in any other affection. I have myself observed these cells in rheumatic pericarditis and found them penetrating deeply into the myocardium. The granules which they contain, and which are splendidly brought out by thionin, are often so large as to resemble micrococci.

The proliferative phase is distinguished by a proliferation of the flat cells of the superficial elastic layer. All the space previously distended with fluid becomes filled with mononuclear cells which displace the elastic

*Since reading this paper I aspirated the ankle-joint in a young colored woman who was suffering from typical acute articular rheumatism. Only a few drops of fluid were obtained and these were at once placed into a mixture of milk and bouillon (two tubes) and glucose agar (one tube). The glucose agar had been previously melted. After inoculation it was quickly solidified and overlaid with an equal bulk of fluid glucose agar, which was then also congealed. This placed any bacteria present under moderately anaerobic conditions. No growth was obtained on the glucose agar, and of the milk-bouillon tubes one remained sterile; in the other a few diplococci, the result of contamination, developed.

bundles. The latter become granular and indistinct and their affinity for orcein is lessened. New blood-vessels form, the walls of which are friable and are apt to rupture at the base of the vegetations, leading to minute hemorrhages. The characteristic feature of the second period of the second phase is the appearance of vegetations. According to Ziegler, the primary process in their formation is the deposit of fibrin on the valves. According to Achalme, the first change is an alteration in the tissue of the valve, consisting in a dissociation of the superficial elastic tissue and the formation of a prominence on which fibrin is subsequently deposited. The next step consists in a proliferation of the endothelium of the blood-vessels leading to a narrowing of the lumen. Proliferation of the cells then ceases and cicatrization begins, and brings about the well-known results: stenosis and insufficiency of the valvular orifice. As the earliest changes in the valve do not produce a murmur, we may infer that endocardial lesions are more common than is clinically demonstrable. It is probable that the muffling of the heart-sounds noticed so often is due to edema of the heart-valves, and indicates the earliest organic changes.

As to the cause of the endocarditis and of the inflammation of other serous surfaces, as the pleura, the pericardium, and possibly the peritoneum, it is probably the same as that giving rise to the joint inflammation, but it is conceivable that under the damaging influence of the toxins of the rheumatic germ the heart-valves become prepared for the reception and activity of the common micro-organisms of mixed infection—the streptococci, staphylococci, and pneumococci. This would be in keeping with what we know of other diseases, such as typhoid fever and diphtheria, in which endocarditis may be due to specific organism of the disease, but is more often caused by secondary infection, the toxins bathing the valves having facilitated the invasion of pyogenic bacteria.

Rheumatic Pneumonia.—This has been described, but I have never seen an instance. Lebert[54] found only 2 in 140 cases, although Valliard[52] makes the proportion very much greater; Stoll[11] gives the percentage as 1.1.

Nephritis occurs occasionally, but presents nothing characteristic. I have already referred to the occurrence of *phlebitis,* to which attention has recently been drawn by Censier.[14]

Cerebral Rheumatism.—The pathology of so-called cerebral rheumatism is unknown. In a case reported by Soques,[54] in which there was also hyperpyrexia, the blood and cerebrospinal fluid at autopsy were sterile, and injection of the latter fluid into animals was without effect. Souques believes that the cerebral localization of the disease is favored by a neuropathic taint.

Changes have been described in the spinal-cord—rheumatic myelitis—but the cases hitherto reported are in no way convincing.

CONCLUSIONS.

The following conclusions, based on what has been said before, seem to me to be warranted:

1. Acute articular rheumatism is a specific infectious disease.

2. It is not an attenuated form of pyemia in the sense that it is due to pyogenic organisms of reduced virulence.

3. Its true cause has not been definitely discovered, although the bacillus of Achalme may prove to be the long-sought micro-organism.

4. A number of joint affections resemble acute articular rheumatism, just as certain pseudomembranous inflammations of the throat resemble diphtheria, and various diseases of the lung resemble typical lobar pneumonia.

5. These joint diseases should, wherever possible, be separated as *rheumatoid* or pyemic affections.

6. They are best designated according to their cause, as streptococci, staphylococci, gonococci, or pneumococcic arthritis.

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COLOSTOMY FOR PERMANENT FECAL FISTULA.*

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The operation I desire to demonstrate deals entirely with those inoperable lesions which cause occlusion of the rectum or lower portion of the sigmoid flexure of the colon. Its chief feature is the formation of a very considerable loop of that portion of the colon which is immediately above the artificial anus, making what might be called an artificial sigmoid flexure or store-

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house capable of holding a large amount of fecal matter, which may be discharged at long intervals, thus preventing the frequent soiling of the dressings, which are so common in the ordinary operations for fecal fistula.

After making the incision through the abdominal wall, in the left inguinal region, the large intestine is drawn through the wound and strong traction made on the lower portion so that all of the bowel between the rectum and the wound is put well on the stretch. About 4 inches of each leg of the loop should be brought out, thus exposing about 8 inches of colon through the abdominal wound. In uniting the contiguous portions of the loop I employ the method of suturing devised by my friend and former assistant, Prof. J. A. Bodine, making two parallel rows of running silk sutures 4 inches in extent and about one inch apart, one row being on either side of the mesocolon. This structure containing the vessels is caught between the two lines of sutures and adds greatly to the strength of a permanent spur. As soon as the two rows of sutures are completed, the loop is dropped back until only about one inch of the knuckle remains through the wound of incision. This should be held steadily in place by means of silk sutures passed beneath the bowel, that is, through the mesocolon just where it joins the bowel, or the glass rod may be employed to support the loop until adhesions are secured. The margin of the peri-

toneum lining the abdominal wall in the entire circumference of the wound of incision, is now carefully stitched to the intestine by the usual method. It is my practice to carry the needle well into the muscular tissue of the bowel wall—taking care not to enter the cavity—in order to get a firm hold of the bowel. Every third suture is made to include with the edge of the abdominal peritoneum the muscle and skin, in order to secure such a strong support that the bowel can not tear loose and drop back into the wound. This precaution should be taken even when the glass rod is used. When the condition of the patient will allow, it is safer to wait twenty-four to forty-eight hours before incising the bowel, for by this time the adhesions will have shut off most securely the peritoneal cavity. This can be done under cocain anesthesia, and consists in shaving off the projecting knuckle about one-half inch above the level of the skin. The fecal contents are discharged through the upper aperture of the bowel, and in the course of time the lower opening becomes contracted, and is used only for the purpose of irrigating the lower bowel, if this should be deemed necessary.

In late years many prominent surgeons prefer to perform the operation recommended by Bailey, and carried successfully into practice in a number of instances by my friend, Prof. James P. Tuttle, of New York. This consists in splitting the external oblique muscle in the direction of its fibers and separating the fibers of the internal oblique and transversalis in the same manner that these muscular fibers are separated in the "gridiron" operation for appendicitis. The peritoneum being incised and the colon secured, it is brought through the wound. The skin at the lower portion of the incision is now dissected up for 2 or 3 inches from the abdominal wall in the direction of the groin, where it is a second time incised. The knuckle of bowel is drawn beneath this raised strip of integument and out at the lower wound, where it is held in place by the glass rod until adhesions occur. The knuckle is then incised and the artificial anus established in this manner. Wearing a truss-like pad on the skin which overlies the bowel-loop, prevents leakage when the patient is moving about. The formation of the extra pouch or loop of colon above the aperture applies equally to this operation as to any other method for the formation of an artificial anus.

REPAIR AFTER INTESTINAL RESECTION.*

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The title of this paper is misleading, in that it gives the idea that healing in the intestine is to be fully considered. I shall discuss the question of stricture following anastomosis, and especially end-to-end anastomosis. The other points in the healing process will be treated very cursorily.

The position which the paper advocates is that the danger from secondary stricture due to development of scar tissue in the submucosa and muscular tunics is very slight. This should be removed from the list of objections to operative procedures. I have been led to this opinion by two sets of observations. I have been confirmed in it by a tone that I find in the literature—illy defined, but present.

The first observation is this: For ten years the profession has been doing anastomosis with great frequency. There has been time enough for the literature to teem with reports of secondary stricture. I have not found such abundance of reports.

The second observation is: I have examined with the unaided eye, and with the microscope, a great many specimens of intestinal union. These have been operated with the Murphy button, Frank coupler, the Connell and various other suture methods. I have not found distinct strictures. Harris says that the major amount of contraction after intestinal operations takes place during the first six months. In his case, no contraction having taken place at the end of ten months, he concluded that danger from that source was past.

As a further part of this observation, I have noted that the scar-tissue fibers occupying the region of the submucosa, muscularis and serosa are never circularly arranged. None but the circularly arranged fiber produces stricture.

Examinations of many specimens of intestines that had been resected show the following arrangement: The mucosa is commonly nearly perfectly arranged. Sometimes we find villi perfect in form directly in the line of union. Commonly the villi are not quite as symmetrical in arrangement as normal. Usually the crypts of Lieberkühn are quite natural. The surface epithe-

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lium is generally perfect in shape and arrangement. The subepithelial mucosa is nearly normal. Occasionally a solitary lymph-gland can be distinguished. The muscularis mucosa commonly blends into the layer of scar-tissue. The submucosa forms most of the scar. The circular and longitudinal muscular layers do not participate in the process of healing. In consequence of this fact, there is usually a sulcus at the point of cicatrix. Sometimes there is a point of projection just below the zone of scar. Usually the peritoneal surface shows a slight elevation. The great interest centers in the scar. The amount of scar-tissue is always small if the healing has been uncomplicated. The fibers nearly always run in one of two directions. Sometimes they run from the mucosa to the serosa, or vice versa. More frequently they bridge the wound, running lengthwise of the intestine. Often there is some pouching. In no specimens of single healing are connective-tissue fibers found running circularly around the intestines. This is the important observation that I offer.

I find the following in Barbat's study of the subject of intestinal union: "In the Murphy button cases the submucosa forms a continuous layer, the directions of the fibers being parallel with those on each side." He adds that the results obtained with the Frank coupler are the same as those with the Murphy button. Through the courtesy of Dr. Barbat, I have had his specimens for study, and I corroborate his observation.

Let us consider the reason why the fibers do not run circularly. Thoma has enunciated the following law of pathology: "In scar-tissue the direction of the fibers is that of the tension." Biologically, this must commend itself. The connective tissues, being for the purpose of holding or retaining, must come, in time, to such an arrangement as best fulfils their function. That arrangement must be such that the fiber runs in the direction of tension.

J. B. Murphy says: "Experience shows that contraction does not take place in the cicatrix produced by this method of approximation when the viscus is in full function." This is confirmed by von Frey.[1] Dr. M. E. Connell, the deviser of the bone plate, says there is no danger of contraction in lateral anastomosis, provided the original channel is completely and permanently stopped. If, however, the old channel is open, or reopens before the new habit is established, the artificial opening will close. Full function and the use of the new channel when the old channel is closed would tend to cause the fibers to arrange themselves other than circularly.

When we come to study pathologic processes, further confirmation of the fact that fibers run in the direction of "pull" is found. When we think of the tubes that are subject to stricture, we find that those most frequently affected are the tubes in which practically the only motion is distention and contraction, for instance, the urethra, the esophagus. When there is true stricture of the intestine, it is almost always in the large intestine, rather than the small. In the statistics of Fitz, in 295 cases of intestinal obstruction 14 were due to stricture of the large intestine, and 1 to stricture of the small intestine. This is accounted for by the comparatively stationary position of the large intestine. Of the strictures of the small intestine, practically all are of tubercular origin.

As illustrating the rarity of cicatricial stricture of the small intestine from all causes, I cite the following: In Kocher's address on "Intestinal Obstruction," to the British Medical Association, in 1898, he reported 95 cases of intestinal obstruction under his own observation. Of these 19 were due to tubercular stricture; 16 to peritoneal adhesions. None were due to ordinary cicatricial tissue in the submucosa.

Sklodowski, in a report of intestinal obstruction, reports 2 cases of cicatricial stricture, both due to tuberculosis. In Nothnagel's clinic, autopsies have been held on 343 cases of intestinal stricture. Of these, 326 were in the large intestine, and 17 were in the small intestine. These 17 were probably all either malignant or tubercular.

Prewitt says that of the chronic obstructions of the bowels, 60 per cent. are due to stricture; 25 per cent. of the strictures are in the small intestine. True stricture is the cause of obstruction in the large bowel, while "contractures" are the almost invariable cause of obstruction of the small. He uses contractures—after Fagge—as meaning peritoneal adhesions. Hofmeister was able to collect 83 cases of intestinal stricture due to tuberculosis which had been operated. He explains the reasons for tubercular stricture in the small intestine.

As showing the very small amount of stricturing, even from tuberculosis, Eisenhart reported 1000 postmortems on tuberculous subjects. There was intestinal tuberculosis in 566; only 9 of these showed stricture. Here was a chronic ulcerative process in 566 cases and only 9 strictures—1.5 per cent. How does this compare with the results of chronic ulcerative processes in the urethra?

Treves, in 1884, collected 78 cases of stricture of intestines. Of these, 26 were in the small intestine. Of the 26, 10 were due to cancer, 4 to strangulated hernia, 2 to injury and 10 to cicatrix after ulcer. Continuing, he says: "Of the cicatricial strictures of the small intestines, the most are due to tuberculosis, primary or secondary."

Matas reported a case of multiple stricture of the small intestine, coupled with the most extensive peritoneal adhesions, all tubercular in origin. He says: "It is now recognized that notwithstanding the frequency of tuberculosis of the bowel, this condition is rarely followed by complete cicatricial stenosis. Yet it is undeniable in the light of recent experience that tubercular ulceration in the bowel is capable of producing obstructive conditions, not so much because of cicatricial contraction, but, as Koenig, Czerny and Hofmeister have demonstrated, because deep-seated tubercular ulcer will give rise to so much secondary inflammatory thickening, edema and plastic exudation, that the lumen of the bowel will be narrowed and obstructed."

Osler, under the head of causes of intestinal obstruction, gives "simple cicatricial stenosis which results from ulceration, tuberculous or syphilitic; more rarely from dysentery, and most rarely of all from typhoid ulceration." He gives no other cause of stricture.

When we come to study the reason for strictures following tubercular ulcers, we find confirmation of the idea advanced. In tuberculosis we have to deal with an ulcerative process, chronic in character, producing local muscular paresis, and very frequently associated with local peritonitis. Adhesion bands result from this peritonitis. These adhesion bands render nugatory the efforts at pull on the part of the intestine. In consequence, the only change in the position and shape of the intestine is that which results from the

1. Beiträge f. klin. Chir., 1895, xiv.

passage of intestinal contents, and the muscular contraction which follows. Therefore, the cicatricial fibers run circularly, and stricture results. Matas calls attention to the great frequency of multiple as compared with single stricture in tuberculosis. This is confirmation along the same line as that just cited.

In this connection I call your attention to the scar-tissue of chronic interstitial myocarditis. There is an absolute lack of uniformity in the direction of the connective-tissue fibers. In the ventricular wall pull is from every direction.

In making a circular enterorrhaphy the circular muscle bundles are split lengthwise of the fiber. In consequence, as the circular muscle contracts and distends it pulls very little on the developing scar-tissue. On the other hand, the longitudinal muscle is cut across. Its fiber ends are caught in the scar. Some small portion of these fibers degenerate, to-wit, those parts separated from their governing nuclei. The remainder of the muscle remains functionally active. In consequence, every muscular contraction pulls on the scar in the direction of the long axis of the intestine. Therefore the scar-fibers run lengthwise of the intestine. We can not avoid the scar-tissue, but so long as the fibers run properly, it does no harm.

Barbat, as the result of a continued and careful study of the histology of healing after various methods of anastomosis, makes the following observations, apropos here: "Muscle cells, after being cut, will never repair in such a way as that the muscle cells will cross over the point of division; there will always be a layer of scar-tissue at the point of union."

Van Hook says that scar tissue is always found in circular enterorrhaphy, no matter by what means one performs the operation.

Lee reports a dog which was operated on with a Murphy button five months before being killed. "There is very little scar-tissue to be seen, it being most evident in the muscular coat. It was a beautiful specimen, with absolutely no contraction present."

Dr. Barbat further says: "If we follow these suture cases, we will find that the connective tissue which is formed between the approximated surfaces begins to contract, and as the amount of contraction depends on the amount of scar tissue, it necessarily follows that with the two comparatively wide surfaces which we get in all suture anastomosis, we will have considerable contraction." I may say that I can not quite agree with this point, and I do not think that his specimens would indicate great danger in this direction. I am of the opinion that exclusive peritoneal contact is not best. The more the submucosa participates in the repair process, the better the result. Barbat says: "It will thus be seen that in order to have secure anastomosis, the perineum and submucosa are the only coats which are essential, therefore the method which approximates these coats the earliest must be the best."

I quote Harris: "The error of supposing it necessary to oppose serosa to serosa was pointed out in my former paper—September, 1892—when it was shown that peritoneum unites as readily to any raw surface as it does to peritoneum." He quotes Greig-Smith's demonstration of the advantages of sero-fibrous union.

I have examined some of the cases cited as proving the possibility of secondary stricture from growth of fibrous tissue: such cases as Keen's and Abbe's. Some of them are very difficult of explanation. Some cases can be explained on the basis of an extension of the primary process, for example, malignant disease; others on the fact that the original outlet remaining pervious, or later becoming pervious, the artificial opening tends to close. Against these we place such cases as those of Dunne and Murphy, in which the opening was larger, some time after operation, than at the time of operating.

In looking over specimens of intestines operated on many months before the animal was killed, I sometimes find great difficulty in locating the point of operation. This will be apparent to you in some of the specimens that I show, notably some of Dr. Barbat's and one of Dr. Frank's. I am certain that some of you have noticed the complete disappearance of scars after typhoid, dysentery, violent gastroenteritis, or caustic poisons. I dare say that you have often wondered what had become of the scar-tissue in cases where you have known of a most severe typhoid a few years previously. The explanation is that in areas of great functional activity, scars have a very great tendency to disappear. Especially is this true of epithelial structures. The mucosa-healing in the intestine is most complete. The muscular regeneration is least complete, and in consequence of this last fact an old scar sometimes persists as a place of thin intestinal wall.

Please do not understand that I deny the possibility of a diaphragm. Operations, such as the Czerny-Lembert, which turn in a large portion of intestine in order to accomplish a broad peritoneal contact, must result in a diaphragm. I show a cast made of such an intestine. I also show a slide showing a large amount of internal projection. I do not propose to enter on a discussion of the harmfulness of these diaphragms. Rosenthal, Goetz, Roser, Chaput, Madelung and Kunner, quoted by Harris, cite cases in which the diaphragm produced marked and sometimes symptomatic obstruction. As a general proposition, we are apt to lose sight of the fact that partial diaphragms constitute a part of the physiological arrangement of the intestine.

The conclusion that I arrive at is: The possibility of secondary stricture is not great enough to constitute a legitimate objection to end-to-end anastomosis.

I have to thank Drs. Murphy, Frank, M. E. and F. G. Connell, Barbat, Herzog, Lee and Turck for the opportunity of examining specimens.

HEMORRHAGIC GLAUCOMA.

A CLINICAL AND PATHOLOGICAL STUDY OF A CASE.*

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PHILADELPHIA.

Hemorrhagic glaucoma may be defined as an ocular affection characterized by an increase in the intraocular tension, as the result of a previous hemorrhagic retinitis. Although now generally recognized as a distinct type of glaucoma, the pathology of hemorrhagic glaucoma is still obscure, so that the microscopical examination of each case is of value as serving to elucidate the precise nature of this disease. It is with this object in view, therefore, that the following case, which has been carefully studied, both clinically and pathologically, is reported.

The patient, G. W. H., aged 58 years, consulted the writer in December, 1894. He said that he had never had any trouble with his sight until the preceding August, when he noticed one morning on rising that everything appeared blue and that objects were seen

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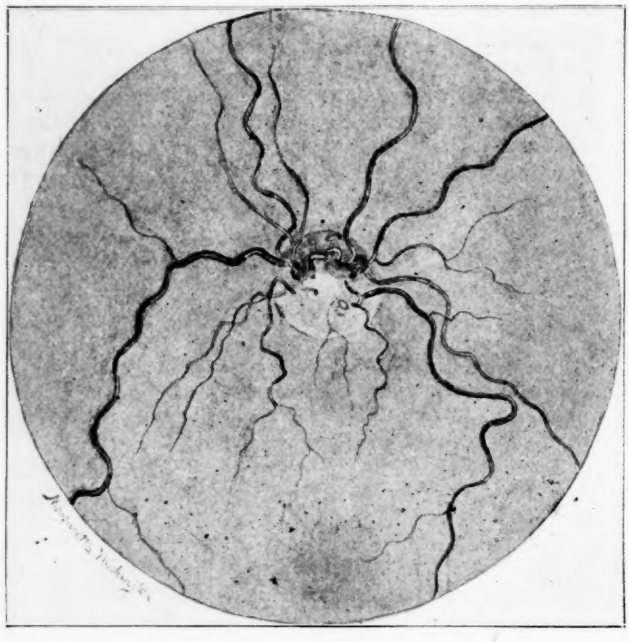
indistinctly. He could not remember any illness, or having subjected himself to exposure or to any unusual strain which might have accounted for this. He thinks that the eyes were not red or painful at the time. For some months prior to these ocular symptoms, he had had attacks of vertigo in the barber's chair and at stool, and had been short of breath on slight exertion. He had had piles for years, and the month before his vision failed he had bled from his nose quite freely on several occasions.

Objects still apearing blue and his vision being still clouded, he was instigated, a few weeks after the attack, to seek relief from these conditions at the Wills Eye Hospital, where he came under the care of Dr. Edward Jackson, to whom I am indebted for the following notes:

"Patient had complained of failing vision in the right eye for the last few weeks, but without inflammation or pain. Examination shows the conjunctiva of the affected eye to be injected. The corneæ are clear, the pupils are 3 mm. in size, and respond actively to



Left eye.—Showing unusual dilatation and tortuosity of the retinal vessels, particularly the veins.

light stimulus. With the ophthalmoscope, the media in the eye are clear, but the disc is red and hazy, its edges being wholly obscured except at the upper margin. The retina is swollen and hyperemic and there are innumerable hemorrhages in the papillo-maculary region. The retina in the left eye exhibits a similar condition, though less pronounced. Vision in the right eye equals counting fingers at 50 cm.; in the left eye 5/10. Examination of the urine showed specific gravity of 1020, and was negative regarding the presence of albumin or sugar. The patient was placed on eserin and nitroglycerin gr. 1/100, three times daily. Three weeks later the disc in the right eye was less obscured, though the retina was still very hazy. The retinal arteries were noted as being relatively very small, with their walls much thickened. Vision of the right eye now equaled counting fingers at 5 inches."

The patient employed the drops and pills which were prescribed, but did not return for further treatment as the drops made his eye painful and brought on vomiting. He then consulted several other ophthalmologists, who advised the continuance of the same treatment, but as the drops still exerted the same disagreeable influence, he became disheartened and discontinued all treatment for several months. At the end of that time, he consulted the writer in the hope that the sight of the right eye, which had now failed him utterly, might be restored to him.

Examination showed the patient to be a large powerful man, but with marked evidence of faulty circulation. His hair was quite gray, his lips rather blue and his temporal vessels prominent. The right eye presented all the cardinal symptoms of absolute glaucoma; the globe being brick-red from deep ciliary congestion, the cornea steamy and needle-stuck, and the scleral vessels full. The anterior chamber appeared to be only slightly shallowed; the pupil was widely dilated and the iris was immobile to light and accommodation stimuli. There was a greenish reflex from the pupil and the tension was +2. On account of the cloudiness of the media, but a faint red glare could be obtained from the fundus. The eye was absolutely blind.

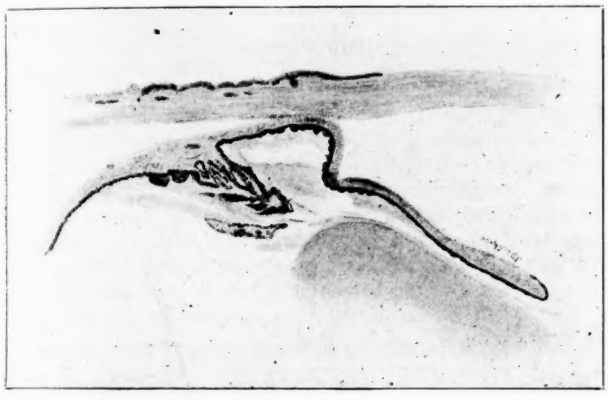
The fellow eye was almost quiet, although in addition to a faint arcus senilis above, there was a faint haze of the cornea and some congestion of the scleral vessels. The anterior chamber was of good depth; the pupil, which was 3 mm. in size, reacted well to light and accommodation stimuli; the sclera was rigid. The fundus was plainly seen, and the appearance of the optic nerve and the retinal vessels was so striking that they were thought worthy of a sketch. As seen in the sketch, the nerve was quite gray in the deeper layers, especially to the temporal side, but was markedly hyperemic and slightly swollen on its nasal half, this edge of the disc being almost hidden by the swollen nerve-fibers. There were also several minute hemorrhages on the head of the nerve, and a few corkscrew-like vessels projected from it. The outer two-thirds of the disc were embraced by a large physiological excavation, at the bottom of which the lamina cribrosa was plainly visible. The retinal veins were enlarged and very tortuous, especially on the disc, and projected into the vitreous, being twisted about one another like a cluster of angleworms. The arteries were reduced in size and their walls were thickened, presenting somewhat of a waxy appearance. The entire retina was slightly hazed, and was so swollen at the nasal edge of the disc that the distended veins were at times obscured by it. In the macular region there were several minute scattered spots of pigment. Vision equaled 5/10, and with +0.50 D. S. $\frown$ +0.25 D. C. ax. 90°, equaled 5/5; with +3.D. additional, type 0.50 D. was read from 12 to 20 cm. The field in the left eye was normal both for form and color.

A careful physical examination by Dr. Alfred Stengel discovered a somewhat enlarged left ventricle, and a strong high-tension pulse. The sounds over the heart were free from murmurs, but the first sound was peculiarly heavy and booming in character, while the second was sharp and accentuated, especially at the base and at the aortic region. There were faint bruits in the arteries of the neck. The vessels were everywhere stiff, but not calcareous. Dr. Stengel was of the opinion that the case was one of moderate arteriosclerosis.

An examination of the urine made by Dr. S. M. Hamill was as follows: specific gravity 1024, reaction acid; microscopically, a few cylindroids and urates, but no casts.

The patient was cautioned about overexerting himself; his diet was restricted; his bowels were kept open by salines, and his circulatory apparatus regulated by

nitroglycerin. Two drops of eserin salicylate—gr. ¼ to the ounce—were instilled into the right eye twice daily, preceded by a few drops of a 2 per cent. solution of cocain. After several weeks of this plan of treatment the eye became less painful and the circulation improved to such an extent that the outlines of a hemorrhage in the retina, slightly up and out from the disc, could be discerned. This improvement lasted for several months, when there was a recurrence of the attacks of pain in the eye, which radiated into the nose and was accompanied by profuse lachrymation. The iris gradually became vascular, the cornea more densely steamed and the globe harder, and the pain was so severe that enucleation was finally advised to avoid further discomfort. The patient's consent being obtained, this operation was performed without accident under ether, and the globe placed in Müller's fluid for examination. The socket healed satisfactorily. In order to protect the remaining eye from a glaucomatous attack, a weak solution of eserin was instilled into it, the proper correcting lenses adjusted, and a careful regimen of the patient's life insisted upon. As a result of these precautions, the patient's health improved, and there have been no untoward symptoms in his remaining eye.



Section through the angle of the anterior chamber, showing its complete obliteration by the adhesion of the base of the iris to the cornea.

An ophthalmoscopical examination, which was made a few days ago, showed that the circulation in the eye had improved, the caliber of the arteries was greater, and the veins were not so dark and full as at the time of the sketch. The intense striation of the fibers on the nasal half of the nerve still persisted, but the few pigment massings, the remains of the hemorrhage noted by Dr. Jackson, had entirely disappeared.

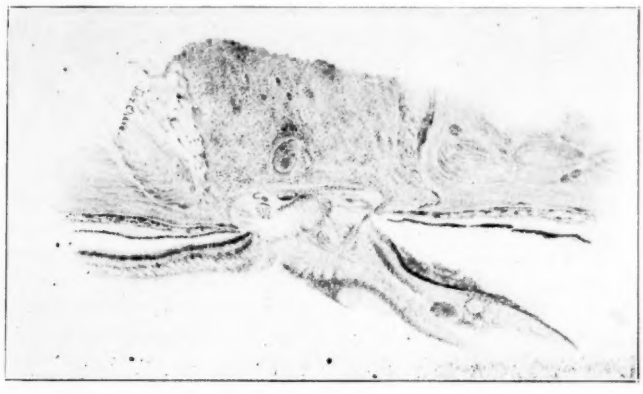
The enucleated globe was allowed to harden in Müller's fluid for several months preparatory to its pathological examination by the writer in the laboratory of the State Hospital for the Insane at Norristown. After the hardening process had been accomplished, the eye was frozen in a mixture of salt and ice and divided with a brain section-knife. Macroscopically, it was noted that the antero-posterior diameter of the globe was 25 mm., the horizontal 24 mm.; the lens was 9 mm. in its horizontal diameter, and 3 mm. in its posterior diameter; the anterior chamber and vitreous were filled with an albuminoid material, and the nerve-head was swollen.

MICROSCOPICAL EXAMINATION.

Cornea.—The epithelium and Bowman's membrane were intact, although the presence of tiny cavities between these two layers, as well as the increased prominence of the lines separating the individual cells, especially in the deeper tissues, gave evidence of a considerable degree of edema. The lymph-sheaths of the vessels at the periphery were much distended, and the vessels here, in common with all through the globe, showed a decided proliferation of the lining endothelial cells of the intima, thickening of the adventitia, with hyaline change, and in many places nearly complete obliteration of the lumen.

Sclera.—This coat was infiltrated in places with round cells, and was somewhat thickened posteriorly about the entrance of the optic nerve. A section across one of the anterior perforating arteries showed a hyaline thickening of its walls.

Anterior Chamber.—As shown by the sketch, the angle of the chamber was obliterated, though clinically the chamber appeared deepened. This was occasioned by the marked retraction of the entire plane of the iris with the exception of its base, which was in close contact with the cornea. The chamber was partly filled with homogeneous transudate, which extended into the posterior chamber and occupied the space between the fibers of the zonule and thence back into the vitreous, where it formed a layer on the inner surface of the retina.



Section through the head of the optic nerve, showing intense neuro-retinitis, unusual vascularity of the head of the nerve, and embolism of the central artery of the retina.

Iris.—The base was quite atrophic. The stroma was dense, and contained but few vessels, and the lumen of many of these was almost obliterated. There was a layer of organized lymph on its anterior surface, which had occasioned by its contraction a marked degree of ectropium uveæ. There was but little pigment in the membrane, except at the pupilary border, where it was found in irregular clumps, instead of the normal pigment cells. The pupil was dilated.

Ciliary Body.—The muscle fibers were atrophic; the tissue was infiltrated with fluid, the processes were pushed forward and occasioned a stretching forward and inward of the fibers of Müller of the retina. Owing to the adhesions formed by the base of the iris and the cornea and the changes in the ciliary body, the posterior chamber was greatly enlarged by a large saccular dilatation of its outer angle.

The Retina.—This membrane was covered by a sheet of organized lymph, which was blended with the disorganized internal retinal layers, and was thickest on the temporal side. Its deeper layers contained but few cells, while the more internal were freely organized. The inner surface was covered with a thick layer of mononuclear round cells, many of which had assumed a spindle form. A detachment of the retina on the temporal side had been occasioned by a contraction of the

mass. The retina was thrown into numerous folds, and in places there were large cavities between the retina and the sheet of lymph, which were filled partly with transudate and partly with fresh extravasations of blood.

The retina had been the seat of an intense inflammation, its layers being blended into a firm mass, richly infiltrated with wandering cells filled with blood-pigment. The rods and cones were broken down into irregular globules, and the space between the retina and the pigment layer, which remained attached to the choroid contained an extensive hemorrhage. Farther to the temporal side, the retina showed less inflammatory reaction, but the hypertrophied fibers of Müller were drawn out into long processes by the exudate, and by their separation allowed the formation of numerous smaller cavities, which were filled with fluid. On the nasal side of the nerve the same effect had been produced, but the cavities were smaller and there were no marked inflammatory changes. Throughout the mass there were small hemorrhages. Anteriorly, the retina showed changes due to long-standing edema; hypertrophy of the supporting fibers, cystic degeneration of the fiber layer, and disappearance of the ganglion cells. In this membrane, as elsewhere, the same vascular changes had occurred as were described above. The pigment epithelium was irregularly proliferated, especially in the papillo-maculary region, and in many places was separated from the lamina vitrea of the choroid by a faintly staining exudate.

Optic Nerve.—The excavation was .5 mm. in depth, and was filled in by the mass of organized lymph, and by the retinal fibers which had been pulled over the edge of the cup by the contraction of the newly-formed tissue. The lamina cribrosa was bent backward and the excavation occupied the entire nerve-head. The central vessels showed a marked degree of thickening of the walls and proliferation of the endothelium. The veins were full of blood, but the lumen of the main artery was partly filled with a mass of spindle cells, which was firmly filled with the proliferated endothelium. Sections of the vessel within the nerve indicated that the obliteration at the time of enucleation was, in this place, incomplete, as a small channel remained on the nasal side, which contained fresh blood-corpuscles. Sections of the temporal branch of the artery within the lymph mass, however, showed complete obliteration. The connective-tissue septa of the nerve were very much thickened, and the nerve-fibers were completely atrophic. The supravaginal space was distended.

Choroid.—This membrane was little affected beyond an enormous dilatation of its vessels, with bundles of newly-formed connective tissue scattered through it in places. There was some round-cell infiltration beneath the areas of intense retinitis.

Vitreous Chamber.—The retina and the inflammatory mass on the head of the nerve were covered with homogeneous exudate previously described in connection with that in the anterior chamber. From the center of the mass on the nerve there extended into this exudate a channel about the width of the central artery, the walls of which were at first composed of several layers of spindle-shaped cells, but were soon represented by a single layer of flattened cells. This channel was partly filled with red blood-cells, and evidently represented a new blood-vessel springing from the organized exudate, and extending into the vitreous chamber. In the homogeneous exudate surrounding it there were numerous small collections of blood-corpuscles, mononuclear cells which showed vacuolization and disintegration of their nuclei, and cells containing absorbed pigment.

The changes which have just been described are most striking and their significance deserves careful consideration. Dr. E. A. Shumway, who kindly studied a series of the sections for the writer, has given the following explanation of them, which seems to be both pertinent and conclusive:

> The finding of an occlusion of the central artery raises the interesting question: Was this the primary cause, and the subsequent changes in the nerve and retina secondary to it, or was the thrombosis dependent on the inflammation of the surrounding tissues? I think that the answer can be readily given if we compare the clinical history of the case with the pathological findings. In the first place, the process was slow in onset, and the failure in vision was not sudden, but gradual. The ophthalmoscopic examination, which was made some time subsequent to the beginning of the affection, showed a marked neuroretinitis, with numerous changes in the exudation in the nerve-head, and in the substance of the surrounding retina. There was considerable tortuosity of the venous channels, but no noticeable change in the size of the arteries. Moreover, the presence of a similar, though less-marked condition in the fellow eye, and the evident changes in the blood-vessels throughout the system, point to the fact that we are dealing here with changes due to disease of the general vascular system, and not with a mere local disturbance. The pathological examination, therefore, confirms the clinical diagnosis. As a result of the endarteritis and periarteritis of the retinal vessels, there occurred a severe inflammation of the head of the nerve and neighboring retina, with hemorrhages from the diseased vessels, an outpouring of lymph and round cells, subsequent organization of this inflammatory mass, with detachment of the retina, atrophy of the optic nerve, hemorrhage into, and round-cell infiltration of, the vitreous; glaucomatous symptoms then supervened, the filtration angle of the anterior chamber was closed by the forcing forward of the ciliary processes and lens, and as the base of the iris became adherent to the periphery of the cornea the glaucoma became absolute.

While there is still far from unanimity among pathologists regarding the changes which occur in the ocular tissues in hemorrhagic glaucoma, the majority of observers agree that the most constant lesions are found in the blood-vessels, and more especially those of the retina and optic nerve. Undoubtedly this view largely resulted from the thesis of De Bourgon, which showed, in a comprehensive review of the literature, that these tissues were the most frequently affected in the cases hitherto reported.

Thus, of 13 complete pathological examinations which had been made, all exhibited vascular lesions in the retina, such as miliary aneurysms, hyaline and amyloid degeneration, and periarteritis and sclerosis. In 7 of these cases there were lesions in the vascular system of the choroid also.

As a result of this initial general vascular disturbance it appears that a diminution in the circulation of the blood follows that favors the occurrence of hemorrhages, which are rather the result of diapedesis than of rupture of the vessel walls.

As De Bourgon has pointed out, a vicious circle is thus inaugurated: the diminution in the circulation giving rise to the hemorrhages, and the hemorrhages, in their turn, in conjunction with a fibrous transformation of the retina which occurs in the majority of the cases, contribute still further to the stasis of the blood-current. As a result of this, the hemorrhages increase in number, become more extended, and the circulation is finally so impeded that venous thrombosis ensues, in association with a dilatation of the capillaries. Serous exudation then takes place, the intraocular pressure increases and the glaucomatous attack is precipitated.

HEMORRHAGIC GLAUCOMA.*

CHARLES A. OLIVER, A.M., M.D.

PHILADELPHIA.

Frequency.—Fortunately, this almost universally fatal ocular condition, which, as Stirling says, "must be distinguished from hemorrhage into an already glaucomatous eye," is quite rare in this country. Risley's statistics of 4 in 20,000 cases are similar to mine of 8 in 40,000.

Symptoms.—Following an intraocular hemorrhage that is, as a rule, due to some gross disturbance of the vascular system, such as endarteritis or thrombosis, it is either rapidly, or even suddenly, announced by all the expressions of a subacute or an acute attack of glaucoma.

Ophthalmoscopically, if at all visible, the main retinal veins will appear engorged and tortuous, this being particularly noticeable in the larger stems as they bend into the optic nerve-head and pass through its cribriform plate. In these cases, though more particularly in the more pronounced ones, or, at times, in those eyes in which there has been a partial or a complete absorption of an intraocular hemorrhage, neuro-retinites from the veriest haze and edema to the most intense swelling and inflammation become visible. Varying grades of contraction of the arterial currents and irregular dilatations of the venous channels, with perivascular changes, are only too frequently seen. With these, both old and fresh, deeply seated and superficially situated hemorrhages will be found associated.

Should the case last sufficiently long for the gross pressure-signs to evidence themselves—though unfortunately only too frequently first determined at the post-mortem table—the nerve-head will be found deeply cupped and filled with both lymph and blood elements.

If the organ is still able to withstand these ravages on its structures, signs of further lymph-infiltration and increase of vascular exudation, with thickenings, ossifications and degenerations, will all manifest themselves until the organ is affected in its entirety; necroses in the anterior segment of the eye followed by hemorrhagic discharges appear and terminate the scene.

Pathology.—This increase of contents of an already diseased organ has offered a series of post-mortem findings to the pathologist which are quite certain. Inflammatory and degenerative changes in the vessels of the choroid and entire uveal tract have been seen by Knies, Oliver, and Randolph. Similar conditions in the iris and ciliary body have also been noted by Valude and Dubief, and Wagenmann; while the retinal series, as in the well-known cases of Hache and Pagenstecher, are the ones that at times are principally affected. The findings that are mainly seen in the vascular system of the organ consist in scleroses, hyaline changes in the vessel-walls, obstruction of the lumens by thrombi, distention of the vascular canals with blood, and ruptures. With these, the signs of more or less gross inflammatory reactions in the surrounding tissues are constantly found.

The presence of corneal bullæ, the formation of cataract, shrinkage and separation of the vitreal elements, combined with degeneration of the retinal vessels, in association with hemorrhagic extravasations into the substance of the retina, which is generally detached and cystic in places, constitute some of the main pathologic changes that may be recognized in most of the cases. In addition, there may be formations of newly organized inflammatory products throughout the entire organ, as for example, the vascular convolutions that at times are found in the cupped nerve-head and which are believed by Mauthner to be a part of the morbific processes.

In the old and extremely rare chronic cases in which the eyeball has been repeatedly attacked and escaped enucleation, the expressions of bulbar disorganization become increasingly apparent. Ulcerative processes in the cornea, more greatly pronounced degenerative changes in the crystalline lens, and loss of the true vitreous humor with the substitution of grumous and gelatinoid exudates—all become noticeable. To these more widely disseminated gross hemorrhagic extravasations and more greatly pronounced marks of inflammatory reaction are soon superadded.

In the worst and most prolonged types, both infectious and general suppurative changes with panophthalmitis will be found; while the results of hypotony and bulbar shrinkage, both with and without the appearance of gross hemorrhagic and lymphoid extravasations, may be seen.

Treatment.—General therapy must be employed in every case, though unfortunately, by the time the case is met with by the ophthalmologist, it is almost invariably in the stage or condition which requires immediate radical interference. In every case, however, the vascular system must be closely watched and constantly cared for. Sleep, betterment of surroundings, dietetic and emunctorial hygiene in combination with the treatment of any dyscrasia, particularly gout and rheumatism, as shown by Richey, and not infrequently syphilis, constitute some of the main therapeutic means in our possession. Specifically, salicylate of sodium, in large and frequently repeated doses, has, as previously demonstated by Friedenwald, served the greatest good in two cases that were temporarily relieved by me for quite long periods of time.

Locally, I have never ventured with paracentesis of the cornea, believing that the transient relief gained at best was overbalanced by the danger of vessel-rupture from a too rapidly produced lowered support of vascular structure. With anterior scleral puncture I have not had any experience, nor do I wish to essay it in this type of cases. Sclerotomy I have both tried and seen tried, though in my experience it alone has not been productive of the least permanency in beneficial result. The duration of value of iridectomy followed by equatorial sclerotomy as proposed by Randolph, I have not yet had an opportunity to adequately study; neither have I seen any case in which Ball's suggestion of removal of the cervical sympathetic after unsuccessful iridectomy in inflammatory glaucoma, might be tried. Galezowski's crucial sclerotomy and Spencer and Watson's scleral trephining I have not as yet made any acquaintance with; while sympathectomy without the application of leeches to the corresponding temple, combined with the internal administration of ergot and sulphate of quinin as championed by Abadie, I have never employed. Stretching of the external nasal nerves and electricity can not, even hypothetically, be considered of any real use in this type of cases. In regard to excision of the related superior cervical ganglion of the sympathetic, I agree with Ball that the procedure is of more value in simple glaucoma than it is in the inflammatory type.

The value of the production of thin, breakable cystoid cicatrices or the use of the formation of permanent

* Presented in discussion to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

fistulous openings is uncertain, as they seem to me to only serve to expose an already disabled organ to microbic invasion with probable septic inflammation.

In my hands, I have had the best permanent results with slowly performed iridectomies made after the patient had been properly placed under the full influence of a general anesthetic. The cases chosen were those with apparently healthy irises. As far as possible, the patient was carefully prepared. The operation was done on the bed in which the patient was to lie. The head of the bed was placed on a higher level than the foot, thus raising the patient's head higher than his feet, and reducing the chances of any increased blood-pressure while he rested. The instrument used was a properly sharpened bent keratome. The corneal incision was set far back. The knife was slowly entered and as slowly withdrawn, allowing the aqueous humor to dribble away along the sides of the instrument. A firm double figure-of-eight pressure-bandage was applied for the first twenty-four hours. The best of hygienic and constitutional measures were vigorously sought for and strenuously maintained.

As a result, three out of eight cases—37.5 per cent., a much higher percentage than in any other statistics with which I am acquainted—have been saved for periods of eight, six and four years, respectively, with almost, if not quite, normal vision in fairly large and well-shaped fields that have remained intact to the present time, an almost unprecedented result in this so universally considered hopeless disease.

Two other eyes, cared for in a similar manner, were kept in abeyance for quite long periods of time without adequate working vision—the usual result of so-called successful cases. Unfortunately, both of them, after several months' intervals, were ruined by fresh intraocular hemorrhages that were produced from slight local traumatism and undue general violence.

During any of the operative procedures that I have tried in this type of cases, I have never had the misfortune to have a hemorrhage appear, although I have seen it take place in three instances.

Two cases of hemorrhage into the interior of the fellow eye previously operated on—one with four days' and the other with two days' interval—I have seen followed by a permanently successful iridectomy on the second eye, the eye primarily operated on required removal.

In three instances in which miotics seemed to be of some temporary value in mechanically opening the filtration angle, the drugs eserin and physostigmin were usefully continued for some time, though they did not seem to act as well as they do in some of the other types of the disease.

If these measures fail—as they most generally will—however, recourse must be had to immediate removal of the globe.

Prognosis.—As can be now well understood, prognosis is almost invariably fatal, although when the local conditions have been gotten into abeyance, the general health kept constantly guarded, and the organ has resumed its functionary powers, relapses may, with a reasonable degree of certainty, not be feared, as, for example, in the 37.5 per cent. of cases in my own series—three out of eight. No rule, however, can be laid down.

From the sweeping, broad statement made by some, that all such eyes are irremediably lost, to the most sanguine views of those who, by improperly including every doubtful case in their series, have obtained data that are both uncertain and misleading, there is a middle ground that must always be occupied by the conservative and yet fearless practitioner.

The state of the patient's health, the condition of the eye, the gravity and the duration of the attacks, and the frequency of recurrence, all enter so persistently into the question of prognosis that the answer for the value of the best applied local and most judicious general therapy in each individual case becomes in large measure idiocratic in character.

DISCUSSION ON PAPER OF DR. POSEY.

DR. E. C. ELLETT, Memphis—Some years ago I had the opportunity to watch a case which from the clinical side was a very interesting and satisfactory study, but very unfortunate from the patient's point of view. The case is reported in the *Annals of Ophthalmology* for October, 1887. She was about 60 years of age when the trouble affected the left eye. When I first saw her she had a typical hemorrhagic retinitis, and I observed the development of glaucoma in spite of everything I and one or two consultants could do to control it. I finally did an iridectomy, which was followed by free hemorrhage, but with good recovery and relief of pain for the time. I finally enucleated the eye, and that was followed immediately by a hemorrhage with great infiltration of the orbital tissues. The case illustrated very well Dr. Risley's classification, dividing the course in two stages, hemorrhagic retinitis, and then confirmed glaucoma. This woman is still in good health, though she has passed through some nervous crises since that time, and the other eye is perfect. The stump of the enucleated eye, while it shows nothing abnormal to inspection, is very irritable and she has never been able to wear an artificial eye.

DR. J. E. WEEKS, New York City.—This class of cases is extremely interesting to me. The condition is due to vascular degeneration and is more frequently monocular than any other type of glaucoma, except the secondary forms due to keratoscleritis, injury or intraocular tumor. The walls of the arteries, principally, are affected but the hemorrhage takes place from the small veins and capillaries. Glaucoma seems to develop only in those patients who possess marked tendency to plastic formations. The treatment that will do most good in these cases is that which prevents the formation of fibrin, and for that reason the iodids and salicylates are apparently of the greatest value. Operative treatment is simply worthless unless we can influence the element that I have just mentioned. The condition of the blood-vessels is not one confined to the eye alone by any means; it involves the general arterial system, being often more advanced in one organ than in another.

DR. S. D. RISLEY, Philadelphia—The Section should be grateful for Dr. Posey's paper, since it gives opportunity for the discussion of a most important subject. Perhaps no form of eye disease is so universally fatal to vision as hemorrhagic glaucoma. At the Pan-American Congress meeting at Washington I read a paper on the subject, in which I presented an abstract of the literature, gave the experience of a number of friends, secured by correspondence, and added the histories occurring in my own private practice. I could discover no instance of recovery in a well-authenticated case of the disease. It is important that hemorrhagic glaucoma should be carefully differentiated from acute or subacute glaucoma with hemorrhages. The latter, as we all know, is unfortunately frequently observed, and its course modified or assisted by treatment: while the former is fortunately rare, since no treatment is of any avail and blindness the inevitable result. It is but a local expression of the disease of the general vascular tree, and as such anticipates in blindness the fatal result which in many cases speedily follows. I am greatly pleased with the admirable statement just made by Dr. Weeks of the pathological conditions in these cases. It is important, when viewed from the medicolegal standpoint, that hemorrhagic glaucoma should not be confused with other more hopeful forms of glaucoma, since a too favorable prognosis might in that case be given. As a source of mutual protection this section should voice its opinion, as to the fatal character of this disease, in the most clear-cut and emphatic manner.

DR. J. L. THOMPSON, Indianapolis—I have seen many of

those cases and in a great majority of instances I have had eventually to enucleate the eye. I recall one case, however, and it is the only exception, of an old gentleman now 70 years of age who came to me 10 years ago with just such a hemorrhage, and I told him of the dangers and fears of subsequent trouble. I put him on salines, used leeches and sent him to the Springs. He stayed there a while and the eye began to clear up, but eventually he had glaucoma. I began the use of eserin, but glaucoma set in in the other eye. The vision in the hemorrhagic eye is still 20/70. Of course, I look for trouble yet, and I fear an iridectomy so much that I have refused to do it for either eye. It is the only case I have ever had of hemorrhagic glaucoma where I did not have to enucleate the eye subsequently.

DR. W. C. POSEY—In closing, I wish merely to say, as I have already stated in my paper, that the essential lesion in hemorrhagic glaucoma is vascular, both general and local. As a result of the general arterio-capillary fibrosis there is a diminution in the circulation, which affects the intraocular condition as well as that of other parts of the body. Hemorrhages occur in the eye, plastic exudates are formed, a still greater impediment is offered to the proper circulation of the blood within the eye, and more hemorrhages are the result. This vicious circle is continued until the proper exchange of the intraocular fluids is no longer possible, and glaucoma results.

I fully agree with Drs. Weeks and Risley that the treatment of this form of glaucoma should be directed to the general system, and to the lowering of the intraocular tension by local remedial measures, for I believe iridectomy in this class of cases to be inexpedient.

IMMATURE CATARACT AND ITS TREATMENT.*

G. E. DE SCHWEINITZ, A.M., M.D.

PHILADELPHIA.

It may be asked: Why waste time on this hackneyed subject, which has so often been discussed, especially in our own country, for example, by Risley,[1] Woodward,[2] Alt,[3] W. L. Pyle,[4] and by others, and when we know that there is no specific treatment of incipient cataract and that all which can be done is to keep the patient in the best state of health and the affected eyes in the most perfect optical and nutritional conditions until that time arrives when the crystalline lenses may be safely extracted? While this is undoubtedly true, may it not be pertinently inquired whether a too strict adherence to this view of the case does not engender a species of unjustifiable pessimism and unwarranted therapeutic nihilism which drive patients out of legitimate consulting-rooms into the hands of irregular practitioners?

In general terms, all complicated cataracts, especially those caused by acute and chronic affections of the eye, i. e., iritis, iridocyclitis, iridochoroiditis, active choroiditis, detachment of the retina, malignant myopia, glaucoma, corneal ulcers, etc., all cataracts caused by toxic agents and by direct or indirect traumatism, and those usually described under the term juvenile or congenital are excluded. So, too, it is not possible to adhere to a strictly pathological classification of lenticular lesions; but I may, for convenience sake, be permitted to describe these opacities as we usually meet with them in the consulting room, viz., 1, non-progressive cortical opacities; 2, progressive cortical opacities; 3, nuclear and mixed opacities.

Non-Progressive Cortical Opacities.—Sometimes in so-called senile or simple cataract the development of the lenticular change is so slow as to justify the term "non-progressive." We see cases of this character constantly, the lesions usually appearing in the form of a few equatorial streaks or tufts, the favored position being in the naso-inferior quadrant of the lens.* Dr. J. L. Thompson has particularly described them. An illustrative case is the following:

> A woman, aged 68, consulted me in 1890, with the statement that, twelve years before, she had been told by two of the most competent eye surgeons of the city that she had incipient cataract. At my examination the vision of the right eye, after the correction of a slight refractive error, was 6/9 and of the left eye 6/12. In each lens downward and inward were well-marked streaks of opacity slightly fluffy on their margins. The eye-grounds were normal and the patient was in excellent health. Ten years later the findings were almost exactly the same, the vision of the right eye being 6/12 and of the left eye 6/15. The opacities, therefore, have existed for twenty-two years and have undergone practically no change. The patient has used her eyes on the finest kind of work and has never for a day ceased to do so.

At our annual meeting in Denver in 1898, Dr. Hotz quoted a similar instance, the opacities having remained unchanged for thirty years, and agreed with Dr. Jackson that cases of this kind ought not to be classified as cataract; that is to say, the patients themselves ought not to be told that they were suffering from a disease which was likely to progress and produce blindness, and they should not be debarred from a reasonable use of their eyes.

A good deal has been written to show that age itself, while a very important factor in the development of cataract, is often, as Jackson has shown in his interesting statistics, only a predisposing cause. Indeed, one of Schoen's well-known conclusions is: Simple cataract is not a manifestation of age, but frequently begins in young persons; therefore the characterization senile is inappropriate. Cataract, as Fuchs well puts it, "occurs very frequently in old people, but not so regularly as to be regarded as a physiological attribute of age—as the turning gray of the hair is, for example—but as a pathological process." In other words, if we wish to prove that age is the only causative factor, all other etiological processes must be excluded; that is to say, diseased processes in the patient generally or in the eye locally.

Risley has thoroughly investigated this subject, and believes that the frequent coexistence of disturbance of the choroid coat and incipient cataract indicates that, while opacity of the lens—so-called senile—is a condition commonly seen in advanced life, it does not in all probability depend on senile changes, but is originated in local pathological states involving the nutrition of the eye itself. This, you observe, is going a step further, and practically excludes age as a causative factor, which it seems to me is a step too far to take, because undoubtedly a certain number of incipient lenticular opacities, particularly those just described, are not associated with any pathological condition in the eye itself ophthalmoscopically demonstrable, or with any general disorder of the patient's constitution, unless age itself, as has been maintained, is a disease. They are distinctly concomitants of age, and the eyes require no treatment other than suitable optical aid. To make to such patients a solemn-faced announcement that a disease exists which will soon lead to blindness is unnecessary, cruel, and, in fact, untruthful.

True, it is difficult, if not impossible, to foretell the rate of progress such lens-changes will pursue, but careful study will, I think, often separate them from the other classes, and a definite prediction may be deferred

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until examination reveals signs of increase, or visual acuity can no longer be maintained at a reasonable standard by suitable optical therapeutics.

Progressive Cortical, Nuclear and Mixed Opacities.—On the other hand, the large majority of cataracts, properly classified under this heading, are slowly progressive, the period of growth from incipiency to full maturity varying considerably. Whether we should make a distinction between those forms of opacity which are degenerative in character, particularly the nuclear varieties, and those which partake more of the nature of an inflammation, as some of the cortical types do, a distinction which has been made by Brailey and others, is not now pertinent. What I hope to bring out in discussion is: What we shall do for the patient while the crystalline lens is passing through the stages of cataract-formation, and what measures we may employ to check the rapidity of the opacification, or to increase the patient's ocular comfort. I will hence pass at once to a consideration of:

Cases suited to Medicinal Therapeutics based on the Condition of the Choroid and the Nutritional Processes of the Eye.—At the very outset I wish to repeat distinctly what I have written and always taught, to wit: Drugs do not exist which can dissolve a growing cataract. On the other hand, I would not without qualification say, as W. L. Pyle[4] has: "Drugs have proved absolutely valueless."

Risley has well shown that a great number of cataracts depend on alterations in the choroid coat; not alone on active choroiditis in the sense of exudations, hemorrhages, pigment heapings, etc., because I have excluded such conditions as these from this inquiry, but on changes that are best described under the vague term, "choroidal disturbances"—the nerve-head is congested, the surrounding choroid is flannel-red, wooly in appearance, and there are faint dark areas in the periphery of the eye-ground indicating the interspaces between the choroidal vessels, or the pigment epithelium has been absorbed and one sees the exposed choroidal circulation, a state of affairs when pronounced amounting practically to an epithelial choroiditis. This is a familiar picture in cases of eye-strain, and there can be no question that Galezowski, Schoen, Magnus, Risley, Jackson, and many others who have written on this subject, are entirely correct in supposing that the strain of uncorrected ametropia, particularly the neglect of proper presbyopic correction, is frequently responsible for the production of these lesions, which in their turn sufficiently disturb the nutritional processes of the eye to cause alterations in the lens-fibers, which lead to opacities.

When in the neighborhood of the 50th year, or a little later, streaks of opacity begin to appear in the lens of an eye with a choroid coat like the type described, I am convinced that properly applied therapeutic agents are of avail in checking the progress of the disease by favorably modifying the choroidal changes, although they have no influence on the opacities already formed in the lens. These agents may be classified, it seems to me, into optical therapeutics, local remedies and general medication.

The optical measures necessarily consist of glasses which absolutely correct all refractive error, both for near and far, and which should be changed as frequently as necessary to conform with the alterations in the refraction of the eye caused by the developing opacities in the lens. This of itself will reduce the hyperemia of the conjunctival and the choroidal coats, a reduction which may be further enhanced by such local measures as the systematic application of hot water in the form of hot stupes at night or when the day's work is done—an old-fashioned but most efficient agent—and the instillation into the conjunctival sac of a weak solution of pilocarpin or eserin—gr. 1/40 to 1/20 to the ounce. Of the drugs which have given me the greatest satisfaction I may name the alteratives, particularly the iodids, especially the iodid of sodium; the bromids, most efficiently the bromid of sodium in conjunction with ergot; and some preparations of mercury, the best, it seems to me, being the biniodid. I am inclined to think that cannabis indica has a favorable influence, although I am not quite clear what its physiological action is. These remedies are of no avail unless the patients can be persuaded to take them for long periods at a time, preferably, I think, in small or broken doses. An illustrative case is the following:

A woman, aged 54 years, consulted me on June 13, 1887, for the relief of great asthenopia with well-marked striæ in each lens, and fine clouding of the general lens-structure, a little more marked on the right than on the left side. The conjunctivæ were congested; the ciliary circle was hyperemic. There was general wooliness of the choroid coat, over-distention of the central lymph-sheaths, especially around the veins, which were unduly filled, and each disc was moderately hyperemic and the scleral rings marked. Refraction was:

O. D. +.50 C. axis 90, 5/5.

O. S. plano, 5/5. +2.25 added for near work.

January 15, 1899, or eighteen months later, the refraction was:

O. D. +.62 C. axis 105, 5/5.

O. S. +.50 C. axis 120, 5/5. +2.75 added for near work.

June 25, 1891, or thirteen months later, the refraction was:

O. D. +.75 C. axis 75, 6/6.

O. S. +.25 S.⌒+.50 C. axis 105, 6/6. +2.75⌒3 degree prism, base in, on each side added for near work. (The insufficiency of the internal recti at 30 cm. was 15 degrees.)

April 28, 1893, or two years later, the refraction was exactly the same and the vision unaltered; the presbyopic lens was slightly increased in strength.

May 15, 1898, or six years later, the refraction was:

O. D. +.50 S.⌒+.75 C. axis 90, 6/9.

O. S. +.75 S.⌒+.50 C. axis 105, 6/7.5.

During all this time—eleven years—only a very slight increase in the lenticular opacity had occurred. The patient was under the strictest supervision, her brother being a physician; her general health was kept in the best possible condition, and the various alterative tonics previously mentioned were administered almost continuously. She returned always when the asthenopia reappeared, and in the intervals between the changes of refraction was entirely comfortable. The appearance of the eye-ground gradually improved.

This is a type of incipient cataract very different from that described as non-progressive, in the beginning of the paper. It is the type to which Risley refers and represents a class of cases which, he demonstrated, can be, and ought to be, relieved by such lines of treatment. Naturally, we may not always or perhaps not often succeed. Doubtless we may be obliged to say, with Alt, that frequently the choroidal disturbance yields, but the formation of the cataract goes on undisturbed "in its slow and steady progress." Be it so: we have at least put the eye in the best condition possible to receive the highest benefits of future operative interference. I plead only that these patients shall have constant supervision and the benefits, whatever they may be, of the lines of treatment suggested. They must not, on the one hand, be deceived with exaggerated

promises of help, but, on the other, they ought not to be discouraged by indifference and the neglect of therapeutic trials.

Cases of Incipient Cataract Suited to Medicinal Therapeutics based on the Constitutional Condition of the Patient.—A good deal has been written on the relation of disease and of morbid conditions other than those located in the eye to the formation of cataract,[5] but the conclusion reached by Becker that a connecting link between constitutional maladies and opacities of the crystalline lens has not been established remains in large measure true at the present time, although we know that cataracts of various types have been credited to typhus and typhoid fever, to the exanthemata, whooping-cough, malaria, influenza, gout, rhachitis, syphilis, diabetes, nephritis, diseases of the heart and atheroma of the vessels, particularly the carotid. So, too, to various nervous diseases, especially epilepsy, and even to some diseases of the skin the formation of cataract has occasionally been attributed.

We may exclude at once as not likely to lead to profitable discussion all of the diseases mentioned, except diabetes, nephritis, lithemia in the widest acceptation of the term, and angiosclerosis.

While it may be true, as Mauthner once maintained, that there is reason to believe that the relationship between diabetes mellitus and the formation of cataract has been overstated, even he was unwilling to exclude this disease entirely as a causative factor, and there is no doubt that in a certain percentage of cases the excessive elimination of sugar and of water which occurs in diabetes mellitus leads to the formation of cataract. While the dietetic and medicinal treatment of the diabetes under these circumstances can not cause an absorption of the lenticular opacities, which, as we all know, are prone to rapid increase, I am inclined to think that in certain cases they may hold them in check for a time. A case in point is the following:

A woman, aged 50, who stated that she had always been slightly short-sighted, consulted me on June 15, 1895, the vision of the right eye without correction being 6/22 and of the left eye 6/60. Each lens contained large flocculent opacities, the central lental structure being filled with a fine haze; the maculas were normal and the general fundus was in fair condition. The urine contained 10 per cent. of sugar. After prolonged mydriasis, the following refractive result was reached:

O. D. —1.00 S.⌒—.75 C. axis 135, 6/7.5.

O. S. —.75 S.⌒—1.50 C. axis 15, 6/9.

The patient was referred to her family physician, who placed her upon a carefully arranged diet and prescribed various remedies which have a reputation for reducing the amount of sugar.

For seventeen months the vision and refraction remained practically stationary; then the lenticular opacity of the left eye began to increase, as did also the myopia, so that —1.50 S.⌒—1.50 C. axis 15, was required to bring back the vision to nearly what it had been primarily, viz., 6/12.

In another year there had been no change in the vision of the right eye, but the myopia had increased 1 D. In the left eye, however, the lenticular opacity had markedly increased and the myopia had risen to 2.50 D.

Six months later, during part of which time the patient had gone to a sanitarium where cataracts are supposed to be cured by absorption, and had utterly neglected her treatment so far as the diabetes was concerned, the cataract of the left eye rapidly increased and was near maturity when she returned to decent medical supervision. On the right side, however, the vision still remained 6/12, but the myopia had again increased a diopter. After this the patient disappeared from view, but I know that subsequently the cataracts became complete and were extracted by surgeons abroad.

This case is interesting, as it shows that for two years nearly, by suitably changing the glasses and keeping the patient on the strictest kind of diet, there was no increase, or no material increase, in the cataractous processes. Whether the same slow rate of progress would have taken place without this general medication it is, of course, impossible to say, but it seems fair to attribute the apparent checking of the process for the time being to the measures which were employed, and it is further interesting to observe that a rapid increase in the opacity took place when for a time these measures were discontinued.

Naturally, the so-called nephritic cataracts, which it seems to me is a doubtful name, because although albumin is present in about 6 per cent. of cataract cases, the etiological relation of nephritis to the disease has certainly not been proved, would be treated, if they were not ready for operative interference, with such remedies and dietetic measures as would put the patient in the best possible condition, but certainly without the slightest hope that they would cause absorption of the cataract, or do more possibly than put off operative interference.

While it would be impossible to prove, and probably unwise to attempt to prove, that gout directly causes lenticular opacities in the sense that the opacities are gouty deposits or gouty manifestations, as these deposits and manifestations may occur in other tissues of the body, it is certainly safe to say that indirectly lithemia in the widest acceptation of the term may be a cause of lenticular opacities by affecting those portions of the eye particularly concerned in the nutrition of the crystalline lens. Naturally, it could do so by producing an iritis, cyclitis or choroiditis of active and evident manifestation, but it is possible, and I think probable, that it causes finer lesions in the uveal tract than are readily detected by the ophthalmoscope, lesions which we vaguely designate as disturbances of nutrition. Be that as it may, a careful examination of the urine and of the general constitution of many persons past middle life who come with beginning lenticular opacities will give evidence of the lithemic state, and therefore reveal an evident indication of therapeusis.

Many cases could be quoted in support of the value of treatment under these circumstances, one of the most striking being that of a woman who developed about her fiftieth year numerous gouty manifestations, such as occipital head-pain, slight alterations in the knuckles, burning and stinging of the soles of the feet, etc., and at the same time delicate streaks of opacity began to appear beneath the capsule of each lens. These opacities appeared to become stationary, or practically stationary, coincidently with a marked improvement in the patient's general health brought about by the most scientific dietetic and medicinal treatment to alleviate the gouty manifestations, a treatment which was followed by encouraging success.

Michel once tried to establish an etiological relationship between atheroma of the carotid and the formation of the so-called senile cataract. Later Becker disputed this association; at any rate, he proved that cataract was just as often unassociated as associated with alterations in the walls of the carotid. Doubtless this accurately sums up the connection of the two processes; but when that age is reached—which varies much in different subjects—when an intrusion of the lime salts may be expected, an age has also arrived when cataract formation commonly begins. Is it unreasonable to suppose that changes in the nutrient vessels of the

anterior uveal tract may also take place at this time and aid in the development of lenticular opacities? In the retina we can study ophthalmoscopically the early signs of atheroma all the more intelligently since the publication of Mr. Gunn's admirable paper; but in the uveal tract we can only surmise their presence unless, perchance, microscopic examination should become possible. Under such circumstances the patient's general condition improves with the regulation of habits of life, character of food, and the administration of such remedies as iodid of potassium, well diluted, iodid of sodium, nitroglycerin, and perhaps the chlorid of gold and sodium. I have never seen the smallest speck of opacity disappear by such treatment, but sometimes lenticular changes apparently on the increase seemed to receive a check in their rate of development. Why should it not be so? If the remedies and the diet improve the vascular conditions elsewhere in the body, is it not likely that they improve them also in the nutritive organs of the eye and therefore indirectly become of advantage to the lenticular well-being?

In this connection it is interesting to quote the theory of Magnus:[6] The development of cataract depends on an unequal distribution of the nutritive fluid of the lens. The entrance and flow of this fluid is facilitated by the changing tension of the zonula during accommodative acts and the elasticity of the normal lens-fibers. If disturbances of the circulation (atheroma), reduction or increase of the normal play of accommodation (high myopia and hypermetropia), lessening of the elasticity of the lens-fibers (senile nuclear sclerosis), check the nutritive stream a lymph-stasis results. This shows itself either in the equatorial region and poles of the lens (which are the nutritive ports), or in the neighborhood of the sclerotic nucleus, and passes by chemical changes in the lens-fiber (unresisting by reason of senility) to real lens-opacity.

If this hypothesis is correct, then certainly the methods thus far urged receive distinct support. True, it may be argued that the retardation of the cataractous process in diabetic, lithemic, or angiosclerotic individuals, which has apparently occurred when their constitutions were brought under the influence of such general measures as have been described, was a mere coincidence and that the lenticular changes were nonprogressive from their incipiency. The reply to this is that the character of the eye and of the lens-lesions in these cases is such as to indicate that the progression of opacification is to be expected, and that retardation apparently begins coincidently with improved general conditions. What I wish to insist on is that we must first of all, as Fromaget recently said, be physicians and we should regard opacities of this character as indicating a sick eye containing a sick lens, just as much as a leaking valve in the heart indicates a sick central organ of circulation. It seems to me to be our duty, after we have fulfilled the optical therapeutic indications in the manner described, to insist that these patients shall have the treatment which is indicated by the general malady, which may or may not be the underlying cause of the lenticular changes.

Consideration of the Cases suited to Optical Therapeutics, with Special Reference to the Development of Astigmatism and Prodromal Myopia.—As has been more than once stated, the patient with incipient cataract should wear those glasses which give him the highest type of visual acuity and permit such use of the eyes which he may have with the least strain. Hence optical therapeutics are applicable to all these cases, so long as the glasses afford any gain in visual power.

The development of prodromal myopia, or the "second-sight" of the laity, by which a patient previously emmetropic or hypermetropic owing to intumescence of the crystalline lens as the result of forming cataract, is able to lay aside his reading glasses and improve his distant vision with concave sphericals, is well known. I do not wish to detain the Section with a discussion of these cases, which recently have been reviewed and commented on by Dr. William F. Norris.[7] I refer to the subject only because the development of the astigmatism in association with the myopia is occasionally very great, perhaps even greater than one would imagine, and a correcting lens produces the most surprising results. A striking example of what I mean is the following:

A woman, aged 64 years, who stated that cataract had begun to form ten years prior to her visit to me, on September 29, 1899, had a vision in the right eye of 3/60 and in the left eye of 3/100. Both lenses were evidently swollen, the striæ being most marked down and in, while up and out were clear areas. The pupils were small, the eye-ground was dimly seen and much distorted. Lenses did not improve the vision of the right eye, but with a —5 C. axis 90, the vision of the left eye rose to 6/25. She came to me believing that the cataracts were ready for extraction and went away almost as well satisfied as if I had performed the operation. She was seen nearly four months later with the same vision, which, so far as I am aware, has continued to the present time, now more than a year ago.

Naturally one hunts for astigmatism, particularly for changes to be made in the cylindrical glasses of patients with incipient cataract, but that such high grades are sometimes overlooked is evident from the case just detailed. This woman had often been examined by physicians and been told she had beginning cataract. For years she had lived in semi-blindness, a fate which might have been averted by a little more careful examination of refraction. This naturally leads me to

Consideration of the Cases suited to Mydriatic and Myotic Treatment.—Of course almost the first treatment that is tried in incipient cataract, particularly of the nuclear variety, when the pupil is small and glasses cease to raise the visual acuity, is mydriasis, and very frequently by permitting the patient to see through a peripheral portion of the crystalline lens there is marked improvement in vision. I would not even refer to so well known a subject were it not that we all of us now and then see cases for which mydriasis has been prescribed without a subsequent re-examination of the refraction. I can illustrate this with a case:

A woman, aged 60 years, consulted me not long ago with a nearly ripe white cataract on the right side and incipient cataract on the left, wearing a +3 S. over each eye. The opacity on the left side was encroaching on the pupil space, and with the pupil dilated her vision with the glass named was 6/22. After a number of trials, both with the retinoscope and by objective methods, +2 S. ⊃ +1.50 C. axis 105 was selected, which gave a vision of 6/9. With +3 added the patient could read quite comfortably ordinary newspaper print. This glass, tinted No. 3 London smoke, combined with daily homatropin mydriasis, is giving the patient the greatest comfort while she is waiting for full maturity of the cataract on the opposite side.

It seems proper, however, when calling attention to this well-known topic, to state that it is my experience and doubtless the experience of many of those who hear me, that daily mydriasis is frequently followed by rapid increase in the lenticular opacity, acting

very much as a preliminary iridectomy does. Thus, occasionally, as in the case cited, the cataract on the side on which mydriasis has been maintained will mature more rapidly than the cataract on the opposite side, although this was originally far more advanced in its opacification. There are many illustrations of this. A good one is the following:

A woman, aged 65 years, consulted me on January 20, 1898. The vision of the right eye was 5/100; of the left, fingers at 50 cm. Each lens was filled with thick cortical striæ, and on the left side, in addition, there was a dense central opacity, forbidding any view of the fundus. Mydriasis produced no effect on the vision of the left eye, nor was this benefited in any way by a glass. On the right side, with pupil dilated, —2 S. gave a vision of 6/25, and with +3.50 added, the patient could read coarse print. Very soon, however, the lenticular opacities of the right eye began to increase, and nineteen months later the cataract was fully ripe and extracted without accident and with normal healing, while that on the left side, originally more advanced than its fellow, has remained unchanged to the present time.

In a certain number of cases myosis is very efficient in sharpening visual acuity. Most frequently I have seen this either when the opacities have run across the pupil in parallel lines, leaving between them a clear space of lens-tissue, or when the lens has been fissured in several directions by striæ of refraction. The effect of the myosis under these circumstances, if there is a spot of central clear lens-tissue, is that of the ordinary pin-hole diaphragm, or of the iris diaphragm when its aperture is contracted. Sometimes I wonder whether we sufficiently often try the effect of maintaining a mild myosis, together, of course, with suitable correction. A good example is the following:

A patient in whose crystalline lenses, most marked on the left side, spicules were first discovered in 1892, was placed on the ordinary treatment described, together with proper glasses, which were changed at suitable intervals. There has been little or no change in the opacity in the equatorial region, but there has been some encroachment on the pupil space, so that the opacities cross in front of it, giving somewhat the impression of a lattice-work. The vision in the left eye dropped to 6/25, when the experiment was tried of keeping the pupil slightly contracted with a weak solution of eserin or pilocarpin. The vision, under these circumstances, rose to 6/12 and remains so unless the pupil is allowed to assume its natural form. In addition to this action, we obtain the beneficial effect of weak solutions of eserin on the congestion of the ciliary region before referred to.

Consideration of Cases Suited to Operative Interference—Optical Iridectomy and Operations for Ripening Cataract.—With a few words we may dismiss these methods of treating incipient cataract. Naturally, when a practically stationary nuclear cataract directly occludes the pupilary space and mydriasis indicates that the vision can be raised to double or treble that which the patient possesses when the pupil is of its natural size, an optical iridectomy placed at the most advantageous position is a perfectly proper surgical procedure. One caution I would introduce, however, namely, that very frequently, not only in eyes with nuclear cataract, but in which, in addition to the nuclear haze, there are cortical striæ and opacities, mydriasis in the office will materially improve the vision and one is tempted to make, as it were, a permanent mydriasis by means of an iridectomy. When, however, the patient is allowed, with dilated pupils, to pursue his ordinary occupation, and compare his condition with his ability to carry on this same occupation when the pupil is undilated, he will not describe any particular advantage gained during the mydriatic stage. Under these circumstances optical iridectomy leaves the patient dissatisfied unless it is explained to him that he can not expect much gain in vision, but that it will render easier and safer the subsequent extraction of the lens. If, however, after trial of mydriasis, both in the office and outside of the office, the patient returns stating that the increased visual acuity is a comfort, optical iridectomy followed by proper correction is a very satisfactory procedure. It gives the patient a period of increased visual acuity; it renders the subsequent extraction of the lens easier, provided one does not care to wait for maturity; and it not infrequently hastens maturity without the disadvantage of actually triturating the lens.

I have elsewhere expressed my views in regard to the extraction of immature cataract and indirectly in regard to the ripening operations,[8] "that I prefer always to wait for maturity, or for that time of life when the lens, even though immature in the ordinary sense of the term, will cleanly leave its capsule, but I prefer the extraction of immature cataracts to the performance of any operation for ripening."

Consideration of the Evidence on the Value of Electricity, Massage and Absorbents (so-called) Introduced into the Conjunctival Sac in the Treatment of Incipient Cataract.—Personally I have had no experience with electricity, but, so far as I am aware, there is absolutely no evidence that it ever has done one particle of good in the treatment of incipient cataract. I have seen a number of patients who have faithfully tried electrical treatment at the hands of reputable physicians with negative results, and I have also seen a number of patients who have purchased the so-called batteries sold by charlatans, which really contain in most instances as their active principle pieces of flannel soaked in oil of mustard, and naturally, I have never seen the slightest sign of improvement.

My personal experience with massage is too limited to make any opinion drawn from it of value, and the same may be said of the instillation of the so-called absorbents introduced into the conjunctival sac in association with massage. I have seen a number of patients who have gone to various institutions where these methods of treatment are pursued, both prior to their departure and after their return. I believe that with a single exception I am correct in stating that under these circumstances the massage and the instillations have invariably produced an increased opacity, in two instances bringing about rapid complete opacification, so that I extracted the cataracts shortly after the return of the patients from these sanitaria, without difficulty. This has led me to think that in some instances of slow-forming cataract perhaps a vigorous massage of the eyeball, particularly now that instruments are on the market by means of which the massage movements can be adapted with scientific accuracy to individual areas of the eye, might be of benefit in hastening the ripening process with less disadvantage to the patient than those ripening operations which depend for their success on the trituration of the lens-substance after evacuation of the contents of the anterior chamber.

The exception which I have noted was an old-standing traumatic cataract which certainly was absorbed, or partially absorbed, while the patient was undergoing massage treatment of the eyeball, a treatment which extended over many months and which was followed with great accuracy, so I am informed. The result was negative because of the extensive choroiditis behind the cataract. If the operator under these circumstances

had taken the trouble to investigate the light-field, he might have placed himself in possession of the data which would have assured him of the probable diseased condition of the eye-ground.

Perhaps we have permitted massage and treatment of this kind to fall too much into the hands of irregular practitioners and that it is worth while to investigate its advantages in a truly scientific spirit. We all remember that Kalish, in 1891, and again in 1899, published papers in which he advocated the treatment of uncomplicated immature cataract by a special form of manipulation and the instillation of a mixture of equal parts of glycerin and 1 per cent. solution of boric acid and rose-water. He claimed good results, but his method has not been followed, chiefly, it seems to me, because less troublesome methods are equally efficacious and because Dr. Kalish very properly gave the greatest attention to frequent correction of refractive error in his cataract patients and to keeping their general and ocular health at the highest pitch, in other words, pursuing methods such as have been advocated in this paper, and which of themselves are capable of exercising a retarding influence. Therefore, it is difficult to judge what value his method of manipulation and instillation in the conjunctival sac of itself may possess.

Now and then certain specific remedies have been advanced for the treatment of immature cataract. Perhaps the one which is best known, and to which the attention of the profession has been very much directed, is the fresh juice of the cimeraria maritima, a drug which, so far as we know, has in no way justified the claims that were made for it. Doubtless all have read Dr. J. Ellis Jennings' interesting research as to the value of this remedy.[9] The extraordinary influence of the thyroid preparations, particularly in the form of thyroid extract, led me to try its effect in one or two cases of partially formed cataract. As far as I could see it did no harm; certainly it did no good.

CONCLUSIONS.

1. Certain lenticular opacities, most often situated in the naso-inferior quadrant of the lens, occasionally are practically stationary and may be designated "non-progressive." They do not handicap the patient's ocular abilities, and may with propriety be separated from the class to which the name incipient cataract is ordinarily given.

2. Certain lenticular opacities undoubtedly depend, as Risley and others have shown, on what may be designated "disturbances of the choroid" as apart from active and actual choroiditis; and their progress is sometimes apparently checked by measures—optical, local and general medicinal—which restore the choroid coat to normality. Such measures do not, however, remove from the lens the opacities which have already formed when the patient comes under treatment.

3. Certain lenticular opacities which appear in association with diabetes mellitus, nephritis, lithemia and arteriosclerosis, particularly the last two diseases, are sometimes apparently retarded, like those in No. 2, by measures which are suited to the patient's general condition in connection with local and optical therapeutics; but these measures never dissipate the lense-lesions already present.

4. Certain lenticular opacities produce not only prodromal myopia but very high degree of astigmatism, the correction of which may result temporarily in a surprising improvement in visual acuity.

5. Certain lenticular opacities cause an obscuration of vision that may be largely dissipated temporarily by providing the patient with glasses moderately tinted which give the best visual acuity during mydriasis and maintaining this mydriasis with a mild mydriatic. Sometimes, under these circumstances, the mydriasis seems to hasten maturation: this fact should be explained to the patient.

6. Certain lenticular opacities, especially in the form of striæ of refraction, cause an obscuration of vision which is somewhat relieved by maintaining a mild myosis with weak solutions of one of the myotics.

7. If the vision of eyes suffering from incipient cataract of the nuclear type is improved by mydriasis, this is not a sufficient indication for optical iridectomy, unless the patient finds by observation that the increased visual acuity, as noted by test-type examination, is also advantageous in pursuing his ordinary occupation.

8. The extraction of unripe cataracts is preferable to any of the ordinary operations for ripening cataract.

9. There is no evidence that electricity has the slightest influence in checking the rate of progress of incipient cataracts, or in dissipating the opacities which have formed.

10. If there is any evidence that massage of the eyeball favorably modifies the rate of development of cataract it is still very insufficient; there is some evidence to show that massage sometimes hastens the opacification of the lens. The subject demands further investigation.

11. There are no "specific remedies" for the treatment of cataract, and there is no reliable evidence that drugs exist which cause the absorption of partially or fully formed cataracts.

12. All lenticular opacities, unless perhaps those which belong to the so-called non-progressive group, should be regarded as indications for a thorough investigation of the patient from the general as well as the ocular standpoint, and for an employment of remedial agents—optical, local, medicinal—according to the findings.

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* Randall thinks this position depends on the frequent choroidal changes found in a corresponding area of the fundus. This is doubtless true in many cases; but these, I think, differ from the ones now under discussion, and tend to progress like other choroidal cataracts.

COMPLETE TRANSPOSITION OF VISCERA.

REPORT OF A CASE.*

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In my work at the anatomical laboratory of the Tulane Medical College a case of complete transposition of the viscera came under my observation. Owing to the facilities of the laboratory I was able to make a thorough dissection of the viscera of the large cavities of the trunk. The subject was a negro, about 25 years of age, and fairly well developed. It presented no external abnormal signs.

On opening the thorax I found both lungs consolidated and with such adhesions as to preclude any means

* Read before the Louisiana State Medical Society, April 20, 1900.

of distinguishing the right from the left. The heart occupied the middle mediastinal space and was placed obliquely in the chest; the apex was directed downward, forward and to the right, reaching the fifth intercostal space and three inches to the right of the median line; the base was limited above by the second costal cartilage, and the left border of the heart extended to the left border of the sternum. The inherent relationship of the heart itself was changed, so that the normally right ventricle was in front and to the left, and the normally left ventricle lay to the right and posterior; that is, it was simply reversed. The venous side of the heart was toward the left, the venæ cavæ being on the left side and entering the left auricle (normally the right). The arch of the aorta was directed upward and slightly to the left, then backward and outward to the right, making a short curve like a Gothic arch. The innominate artery arose from the commencement of the arch of the aorta in front of the right carotid, and ascending obliquely to the upper border of the left sterno-clavicular articulation, divided into the left common carotid and left subclavian arteries. The right carotid arose from the highest part of the arch of the aorta and ascended vertically to the root of the neck. The right subclavian artery passed nearly vertically from its origin at the arch of the aorta to the inner margin of the scalenus anticus muscle. The thoracic aorta was situated on the right side of the spine, approached the median line as it descended, and at its termination lay directly in front of the column. The esophagus lay on the left side of the aorta above, then at the lower part of the thorax passed in front of the aorta and at the diaphragm was situated to its left side. The right pulmonary artery, shorter than the left, ran in front of the descending aorta and right bronchus to the root of the right lung; the left pulmonary artery passed behind the ascending aorta and superior vena cava to the root of the left lung. The right innominate vein, about two inches in length, passed from right to left, crossing the three large branches of the arch of the aorta near their origin. The left innominate vein, much shorter than its fellow of the opposite side, passed almost vertically downward and joined with it close to the left border of the sternum, to form the superior vena cava. The relations of the superior vena cava were in front, with the pericardium and sternum; behind, with the root of the left lung; on the right side, with the commencement of the innominate artery and ascending part of the aorta, and on its left side with the phrenic nerve and left pleura. The right pulmonary veins passed in front of the thoracic aorta with the right pulmonary artery; the left pulmonary veins passed behind the left auricle and ascending aorta. The right pneumogastric nerve crossed over the arch of the aorta, its recurrent branch winding behind the arch; the left pneumogastric nerve passed in front of the left subclavian artery and sent its recurrent branch behind that vessel.

On opening the abdominal cavity, the stomach was situated, for the most part, in the right hypochondriac region, beneath the liver and diaphragm and above the transverse colon; its fundus, which projected upward and to the right of the esophageal opening, touched the diaphragm, while the pyloric extremity was directed downward and to the left.

The duodenum presented its normal horseshoe curve, the convexity being directed toward the left and the concavity to the right, embracing the head of the pancreas. The common bile duct and the pancreatic duct entered the duodenum on the inner side of its descending portion. The other divisions of the small intestine presented nothing of interest. The cecum was found in the left iliac fossa, the vermiform appendix two and one-half inches in length, and in normal relation with it. The ascending colon passed upward to the left hypochondriac region; the transverse colon was found in its normal position; the descending colon passed down on the right and terminated in the sigmoid flexure, which was somewhat shorter than usual, and situated in the right iliac fossa. The rectum originated opposite the right sacro-iliac symphysis, passed obliquely downward from right to left to the middle of the sacrum. The liver extended to the lower border of the ribs and occupied the entire left hypochondrium; the left lobe was in the epigastrium, extending to the right hypochondrium. The round ligament was to the left of the median line. The gall-bladder bore its usual relation to the liver. The spleen was normal in size and appearance and in the right hypochondriac region. The pancreas extended horizontally from left to right, the head being embraced by the concavity of the duodenum and the tail extending to the right as far as the spleen. The left kidney was a bit lower than the right; otherwise the kidneys were normal. The ureters and bladder were normal in appearance and position. The abdominal aorta presented its usual branches, but on the left side it was in relation with the inferior vena cava, which in its course upward perforated the central tendon of the diaphragm to the left of the esophageal opening. The left spermatic vein, instead of emptying into the left renal vein, emptied directly into the inferior vena cava, whereas the right spermatic vein emptied into the right renal vein instead of into the vena cava.

Anomalies of position in various organs of the human body are occasionally observed during life, but for the most part the preternatural situations of organs are discovered in the course of post-mortem examinations or in the dissecting-room.

Entire transposition of the visceral organs is extremely rare, but a sufficient number of cases have been reported to show that this condition is not at all inconsistent with good health and longevity. This case is reported for the purpose of showing the anatomical anomaly and of suggesting an explanation for the abnormal condition.

The organs are evolved and developed in the embryo, right or left, as are the hands and feet and other parts of the body which possess right and left symmetry. Hence all true cases of transposition are congenital, and not the result of morbid processes. Therefore, transposition of the viscus, or of the viscera, can not be acquired.

We must look to embryology for the only rational explanation which can be furnished of transposition of viscera. In reviewing the scant literature on the subject, I came across the following plausible explanation in the "Reference Hand-Book of Medical Science."

"It has been observed that in the early embryo the heart is situated precisely in the median line, and that it gives off two arches, which curve to either side and unite below in a single central trunk: these are the two aortæ, and the single trunk formed by their union becomes the abdominal aorta. As the septum between the two ventricles makes its appearance, that division of the right aortic arch which constitutes the vascular portion of one of the bronchial arches becomes obliterated, disappears, and loses its connection with the abdominal aorta; a branch, however, persists during

the whole of intrauterine life, and constitutes the ductus arteriosus, and another branch is permanent, forming the pulmonary artery. During the sixth week the heart is vertical and situated in the median line, with the aorta arising from the center of its base. At the end of the second month it is raised up by the development of the liver, and its apex presents forward. During the fourth month it is twisted slightly upon its axis, and the point presents to the left."

Von Baer suggested the theory that in a few instances the embryo lies with its left side directed toward the yelk, whereas the right side is normally in this position. He considers the condition in all probability the cause of the transposition.

Ingenious as this hypothesis is, it is, unfortunately, wanting in proof, and does not appear to explain the absolute reversal.

SUBTROCHANTERIC AMPUTATION FOR DIFFUSE SKIN CARCINOMA.

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CHICAGO.

The following case is of interest on account of the extent of the carcinomatous invasion and the clinical history, which gives another instance of the origin of carcinoma from post-natal embryonic tissue. The clinical examination revealed much evidence in favor of blastomycetes, and it was only after a most painstaking pathologic study by Professor Hektoen that a positive diagnosis of carcinoma was made.

Mr. W. P. R., age 23, American, had good health until 9 years of age, when he became the victim of a severe accident. While hanging on a train, he was struck on the inner side of the thigh by the sharp point of a diamond-shaped switch that caused a gaping wound of the thigh, extending below the knee. There was considerable hemorrhage at the time and the wound is said to have been closed by sixty-three stitches. After the injury there was a denuded surface on the inner aspect of the knee about the size of the palm of a hand. This was covered with skin-grafts taken from the father, mother and two sisters. The three latter are alive and in good health at the present time; the father died of pneumonia seven years ago. The whole surface healed well, except an area about the size of a dime, located just above the patella and which never healed. This ulcer was only skin deep. One year ago, there appeared six inches above this erosion, a black area in the old scar, which was exquisitely tender. The epidermis exfoliated, the base being of a deep-red color, and formed an ulcer; this rapidly extended, first along the scar tissue in a peripheral direction and later invaded surrounding healthy structures, involving almost the entire circumference of the thigh. There was a chain of enlarged glands in the groin.

The patient was in a very emaciated condition, having lost twenty-five pounds in weight during the five months previous to the operation.

Patient entered St. Joseph's Hospital Dec. 14, 1899, but on account of his weakened condition and feeble pulse, operation was not deemed advisable at this time. He was given a thorough course of supportive treatment, consisting of daily enemata of salt solution, forced feeding, alcohol, and large doses of strychnin, which practice I always follow, if possible, as a preliminary to major operations. He gradually grew in strength, and subtrochanteric amputation was performed on Dec. 22, 1899. Immediately before the operation, the patient was given an ounce of whisky, per rectum, and 1/32 gr. of strychnin. The anesthetic was ether, by the open method. The usual orthodox amputation was performed, long anterior and short posterior flap. Hemorrhage was controlled by an Esmarch constrictor around the uppermost portion of the thigh, which was prevented from slipping by two mattress needles passed through the fleshy portion of the thigh. The operation was rapidly performed with virtually no loss of blood; nor was there any shock following, which I attribute to the rigid preliminary treatment. On account of the patient's weakened condition I deferred enucleation of the enlarged glands in the groin. The wound healed by primary intention and the patient left the hospital in the course of two weeks. He refused a second operation for removal of the lymphatic glands.

The following is the report of Professor Hektoen from the pathological laboratory of Rush Medical College:

Macroscopic Examination.—The specimen includes the left foot, leg and the greater portion of the thigh, the latter having been amputated at a little above the junction of the upper and middle thirds of the femur. The distance from the upper end

of the femur to the inner malleolus is 70 cm.; from the upper end of the femur to the lower border of the patella the distance is 27 cm. The knee is firmly ankylosed at nearly a straight angle. The tibia is longer than usual, measuring 43 cm. from the lower edge of the patella to the inner malleolus. There is also some anterior curvature in the tibia, the point of greatest convexity corresponding in front to the junction of the upper and the middle thirds.

The foot is slightly deformed, there being present some degree of talipes equino-varus. On the outer aspect of the foot, just in front of the outer malleolus, there is seen a small smooth scar about as large as a nickel and slightly depressed but unpigmented.

On the leg proper, several scars are present. These vary in size from that of a dime to that of the largest one situated on the upper half of the tibia, which extends, anteriorly and laterally, over an irregularly quadrilateral area measuring 12 by 15 centimeters. The outline of this cicatrix is irregular, and in many places the edges are decidedly pigmented.

This scar is directly continuous above the ulcer that involves the upper 2.5 cm. of the anterior surface of the tibia, the knee and the entire lower two-thirds of the thigh, being rather more pronounced on the upper and inner aspect of the thigh, where it extends down to and into the bone. The ulcer has affected the entire front of the thigh and extends laterally for a variable distance; at one point, namely, at the lower third of the thigh, it nearly encircles the limb, leaving about 8 cm. of skin surface, which although the site of an extensive scar is not now involved in the ulceration. The ulcerating surface is 30 cm. in length and measures variously from 10 to 22 cm.

in width. It is thus irregularly oval in shape, the widest portion being just above the center. The borders of the ulceration are for the most part irregular and the edges in many places are distinctly undermined.

On the lowermost portion of the thigh, the patellar region and the uppermost portion of the tibia, the ulcerating process has destroyed the integument only, leaving on the floor of the ulcer the fascia and subcutaneous tissues generally; while on the upper and inner side of the thigh the subcutaneous structures have also disappeared; at one point a narrow ridge of subcutaneous tissue extends entirely across the deeper portion of the ulcer to be connected with the corresponding tissue above. This projecting line of tissue, however, is distinctly undermined and is easily separated from the deeper structures. The edges of the ulcer are indurated and thickened, while the floor is distinctly nodular. These nodules, for the most part, are small and single, generally not exceeding a large hazel-nut in size; they are fissured somewhat irregularly by sulci, which extend for a variable distance, in the median line, even down to the bone. The entire surface might well be described as resembling a cauliflower mass. The surface of the ulceration is bathed in a small amount of whitish-yellow semi-fluid pus, of a slightly offensive odor; not infrequently small collections of pus or miliary abscesses are encountered; and pressure causes small drops of pus to exude from the sides of incisions.

Bacteriologic Examination.—In the cover-slip preparations not a few round, homogeneous, non-nucleated, bodies about six to twelve mikrons in diameter were seen, both when stained and unstained. Apparently budding forms were also met. These were probably degenerated epithelial cells. Numerous and extensive culture experiments failed to reveal any colonies of blastomycetes. The pus contained innumerable bacteria of all kinds and there were isolated and identified, bacillus pyocyaneus, bacillus subtilis, bacillus coli communis, micrococcus tetragenus, staphylococcus pyogenes aureus, staphylococcus pyogenes albus, streptococcus pyogenes, and irregularly stained micrococci not stained by Gram's method.

Microscopic Examination.—Numerous sections from all parts of the ulceration and stained by various methods were examined. All present essentially the same structure. The striking feature is a rather coarse but intricate network of narrower and wider ribbons composed of cells mostly of the type of the prickle cells of the rete. Wherever the surface is covered by epithelium, narrow down-growths of this kind are given off. At frequent intervals the bands of epithelial cells present rather small bulbous and spindle-shaped enlargements of connective layers of flattened and horny cells, which stain by Gram's method. Small whorls are also found in the anastomosing cellular bands; isolated whorls, some quite large, were also present. Many of the epithelial cells are vacuolated —dropsical degeneration— and many curious cell-forms are seen; in some places the nucleus refuses to stain or is very small, the protoplasm staining deeply with eosin and with gentian-violet; these degenerative changes in varying degrees are scattered quite diffusely throughout the sections. The stroma is often of a rather marked fibrous character; here and there are accumulations of cells mostly of the polymorphonuclear and lymphocytic type; occasionally small abscesses are seen in the stroma, often opening on the surface of the sections. Here are found various kinds of bacteria, but no yeast-like bodies. The vessels generally have thick walls and in some are leucocytic thrombi, in other places newly-formed vessels are present. The carcinomatous tissue extends deeply into the tissues of the thigh, especially in the central parts of the ulceration, replacing the muscles, the nerves being the seat of a marked interstitial process.

I have lately examined the patient and found him in excellent health, having gained over thirty pounds in weight, and there is no sign of recurrence of the disease. The lymphatic glands in the groin were much reduced in size, showing that in all probability their enlargement was due to secondary pus infection from the eroded surface rather than carcinomatous invasion.

COLOSTOMY FOR THE CURE OF AMEBIC DYSENTERY.*

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Although medical treatment of dysentery yields good results in many cases, a large number of dysenteric patients succumb in spite of careful and painstaking treatment. The unqualified success which has attended the use of colostomy in the treatment of the case which I present leads me to believe that many patients die because the application of remedies to the diseased portion of the bowel is impracticable by ordinary methods.

The pathological description, as given by Osler,[1] assists us in comprehending the difficulty which is experienced in treating some cases of dysentery. It can readily be conceived that if the ulcerated portion of the colon is situated at a distance from the rectum, i. e., if it occupies the ascending colon or the cecum, any fluid injected will have difficulty in reaching the diseased area and, if it should reach it, it will not remain long enough in contact with the affected surface to accomplish its remedial action. Furthermore, the character of the ulceration, with its sinuous tracts and undermined edges, is a feature which, in itself, renders the application of solutions difficult and impossible, at times, when indirect methods are used.

The treatment of dysentery, according to our best text-books, is restricted to dietetic measures, to remedies given by the mouth, and to remedies applied to the large intestine by means of injections into the rectum.

Rectal injections have often been attended with success, but many patients do not respond to any method of treatment, grow progressively worse and finally die.

The case which I present serves as a good example of the resistance of the disease to nearly all measures used in the treatment of dysentery, as the patient was sick a year and a quarter before I saw him and during that time had submitted to the most careful treatment by capable surgeons both in the Philippines and in San Francisco.

F. C., aged 35, enlisted in the First California Volunteers, May 4, 1898, and sailed on the transport *Pekin* for Manila, May 25. He was well until about December, 1898, when he had a slight diarrhea, which was not sufficiently severe to prevent his remaining on duty. In February, 1899, while on the firing line, he became quite sick and was given bismuth by the surgeon. On February 27 he entered the Ermita Hospital—the field hospital—and while staying there was on a dietetic and medicinal treatment. Among the remedies used were nitrate of silver injections and quinin injections. He remained either at the Ermita, or at the general hospital until May, 1899, when he was transferred to Negros Island and entered the hospital at Bocolod. He remained there until July 3, and then was consigned to the transport *Sherman* and sent home. While on the *Sherman* he passed much blood and mucus and some large membranous shreds.

On Aug. 24, 1899, he entered the hospital at the Presidio, San Francisco, and there received treatment until Oct. 11, 1899, but did not improve. From Oct. 11, 1899, till April 4, 1900, he was confined to his home in this city without methodical treatment. He could get about the streets a little, but was very weak, was having from eight to twenty passages a a day, and was never sure at any moment that he would not have an evacuation. He was also suffering extreme pain in the abdomen.

On April 4, 1900, I saw him at his home and found him in a deplorable condition. He was extremely

* Read before the San Francisco Medico-Chirurgical Society.

1. Text-book on Practice of Medicine, pp. 132-133.

emaciated; he was suffering and his voice was weak. At times he endeavored to concentrate his mind on a game of cards or similar amusement, but found it impossible to do so. He lay around the house all day, not venturing to go out, and took milk and occasionally eggs as diet. If he took meat it caused great irritation and numerous watery evacuations.

I had another case of dysentery, also contracted in the Philippines, which had recovered under the use of large injections of sulphocarbolate of zinc—15 grains to the pint—and I thought it would be an easy matter to accomplish the same result in this case. But although I used these injections faithfully every day and took the greatest care with the diet, the patient became progressively worse. His stools, consisting of water, mucus and blood, numbered from ten to twenty a day. He became very weak, his voice became low and whispering and he could scarcely rise in bed.

The antiseptic solution was evidently not reaching the ulcerated patches in the upper part of the intestine, for while the local tenderness had disappeared over an area represented by the descending and the neighboring part of the transverse colon, the right portion of the transverse and the ascending colon became more tender, until the most exquisite pain and tenderness existed in this region. It was evident that while the solution was relieving the pain and inflammation as far as it penetrated, it was only aggravating the more remote region of the cecum and the ascending colon by exciting severe peristalsis.

At this juncture Dr. J. Henry Barbat suggested the feasibility of performing a right inguinal colostomy and flushing the bowel through the opening thus made. By this he expected to accomplish two things: 1, give rest to the inflamed bowel by preventing the feces from passing over it; 2, allow a large flushing irrigation of a portion of the bowel which was probably not reached by injections into the rectum.

The patient was removed to the hospital April 21, 1900, and was operated on by Dr. Barbat April 25, the bowel being brought up and attached to the abdominal wall. On April 30 the bowel was incised and a stream of pyrozone solution—half a pint to the gallon of sterile water—was passed through the large intestine and as the peristalsis operated it passed out by both outlets, the anus and the artificial anus, thus thoroughly flushing the whole of the large intestine. This treatment was continued daily.

Before the operation the patient had a temperature varying from 99 to 104 F., but on May 2, two days after the operation, it was normal. The pain, which had been excruciating and agonizing, ceased immediately after the first few days and he began to eat well of a soft diet, including fish. He gained flesh rapidly. He was kept under this treatment from April 30 until Aug. 30, 1900—four months—when the opening was closed and the bowel dropped back into the abdominal cavity. While the patient was in the hospital careful examination of the feces was made, and the amebæ coli, which were found in large numbers before the operation, disappeared a few days after the operation and could not be demonstrated after. He now weighs 151 pounds, has but one or two evacuations a day, and feels well and free from pain.

This case I believe demonstrates the utility of this measure in the treatment of dysentery. The method certainly possesses two cardinal points of value: 1, it affords rest to an inflamed surface; 2, it permits direct applications of remedial solutions to a portion of the bowel which is practically beyond the reach of injections into the rectum.

REMARKS BY DR. BARBAT.

The abdomen was opened for a distance of two inches at the external border of the right rectus muscle, and the intestines were examined as far as the fingers could reach. The small intestine appeared normal, but the cecum and ascending colon were very much thickened and of a dull gray color, the normal luster of the peritoneum being diminished. Rolling the cecum between the fingers showed that the bowel was not uniformly thickened, some spots feeling thinner than normal, but the greater portion felt about one-quarter of an inch thick, and of a brittle consistency, showing all the coats to be very much infiltrated. The appendix was swollen, but not congested; it was cut off close to the cecum and the opening closed with two rows of catgut.

The colon was sutured to the peritoneum with interrupted black silk sutures, and sterile dressings applied. The gut was opened on the fourth day without anesthesia and the intestine flushed with antiseptic solutions.

The opening did not close spontaneously, and necessitated an operation, which was done four months from the first one.

The bowel was separated from the abdominal wall down to the peritoneum, which was easily found on account of the black silk sutures, which were all removed. When the abdominal cavity was opened, the fistulous tract was cut off flush with the bowel and the opening closed with fine catgut. The colon was very much thinner than at the first operation, and the bowel had a more normal appearance. The abdominal wound was closed in the usual manner and the wound healed per primam.

LUPUS HEALED WITH ROENTGEN RAYS.

REPORT OF CASE.

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CHICAGO.

The patient, a married woman aged 38, was referred to me May 8, 1900, by Dr. H. B. Favill, with a diagnosis of lupus and for treatment with Roentgen rays. The condition at that time is shown in the accompanying photograph, Fig. 1, which I took when I first saw her. The extent of the disease on the left side of the face and the neck is indicated in the photograph. It also extended over on the right side of the chin and up on the right cheek beyond the angle of the mouth. This entire area was covered with lupus ulcers and unhealthy scars. The ulcers were the typical flabby, soft, indolent ulcers of lupus covered with reddish-brown crusts. The scars were thick, red, band-like and very disfiguring. The scars were most marked under the chin and they were sufficiently rigid to materially interfere with motion. At many points in the scars there were recurrent ulcers. Typical "apple-jelly" tubercles of lupus were easily demonstrable in any part of the diseased area. The point of greatest activity of the lupus was an area with a diameter of perhaps two inches around the left angle of the mouth. The ulcers involved the mucous membrane of the lips at this point, but no lesions were found within the buccal cavity. There was no evidence of tubercular involvement of the deeper structures. There were no deep sinuses and no tubercular glands. The case was, in short, a lupus and not a scrofuloderma.

The disease began, the patient thinks, about four

years ago in an innocent-looking ulcer the size of a pea on the neck, and gradually spread from that point. The disease, however, was so benign in appearance that little attention was given it and no physician saw it. It is probable that it had existed some time before it attracted notice. The case had had no treatment before I saw it except the application of salves, which had had no influence on its course. It had steadily progressed from bad to worse, ulcers healing at times or new ones appearing, but more tissue constantly becoming affected.

At the time the patient appeared for treatment her general condition was considerably run down, but without evidence of other disease than the lupus. There was no indication of tubercular involvement of the lungs. She had had the usual diseases of childhood, but has had no serious illness except an attack of appendicitis about five years ago. She has never, within her

memory, had an eruption except the lupus. As a young baby she is said to have had an eruption of short duration after vaccination, which was probably an impetigo. Her father died at 69, of bladder trouble. Her mother is living, aged 60, but has been blind for thirty years and has always been "scrofulous." She has a brother aged 26 and a sister aged 32, both in good health. A brother aged 23 has a chronic cough. Several brothers and sisters died in childhood.

As to the diagnosis, the presence of the pathognomonic tubercles, the indolent ulcers with soft, reddish borders, the thick band-like scars showing recurrent tubercles and ulcers, the slow course and painless character of the disease are all characteristic of lupus and serve to differentiate it from syphilis or carcinoma. That the disease is not blastomycetic dermatitis, which sometimes so closely resembles lupus clinically, is shown by the absence of blastomycetes. I have sections made from a piece of tissue taken from the border of an active ulcer. These sections show the structure of tuberculous tissue. Tubercle bacilli were found in this tissue by me, and independently in other sections by Dr. Roehr, of the Columbus Laboratory. I was fortunate in having the case seen by Dr. H. G. Anthony, professor of dermatology in the Chicago Polyclinic, when it first came to me; he agreed in the diagnosis of lupus.

The treatment which the patient has had in my hands has consisted of exposures to X-rays after the method of Schiff and Freund, of Vienna. While the lesions were freely ulcerating, the surface was covered with boric-acid vaselin, and in the morning before the treatment by X-rays the ulcers were lightly cleaned with cotton sponges wrung out of a weak bichlorid solution. The ulcers, however, were never washed with bichlorid solution, and the case has had no other local treatment. The patient has had no internal treatment of any kind until within the last month, and then only a pill of reduced iron, arsenious acid and strychnin, t. i. d.

Treatment was begun by exposure to X-rays on May 8, and was continued daily, except Sundays, until May 26. By May 24 many of the lesions were cleaning up and beginning to heal. May 26 the exposed surfaces showed some reaction from the effects of the rays; the lupus tubercles were brighter in appearance and the borders of the ulcers redder. Treatment was discontinued until June 4, by which time the reaction had almost disappeared. The treatment was continued from June 4 until June 21, daily, as before, when considerable dermatitis developed. This dermatitis was confined

to the diseased tissue and did not involve the surrounding healthy skin which had been exposed to the rays. At this time the ulcers were healing rapidly. The treatment was discontinued until July 2, when reaction had entirely disappeared and almost all of the ulcers were healed. From July 2 till August 10 the treatments were continued, not daily, but with a few intermissions of three or four days as the condition of the face indicated. During this time there was gradual improvement in the condition, the remaining ulcers healing, tubercles being absorbed, and the entire surface becoming covered with healthy scars.

By the latter part of July the left side of the face showed few traces of the disease. The diseased area on the right side, however, which from the manner of making the exposures had received less of the effects of the rays than the left, still showed lupus nodules and open ulcers. Accordingly, additional exposures were begun directly over this area on July 30 and continued daily in a maximum amount until August 10. Under these extra exposures the lesions immediately began to improve and by August 10 had entirely healed. This observation, which is but confirmatory of similar observations made by Schiff and by Jones, leaves little room for doubt as to the positive effect of the rays.

On August 10 treatment was discontinued, because of my going away. At that time the only evidence of lupus that I could find was at the angle of the mouth, where there was still a focus of disease. On September 13 the patient returned; there was then no evidence of disease at any point except at the angle of the mouth, where the tubercles persisted. Treatment was resumed with exposures over the left angle of the mouth. September 20 the tubercles on the upper lip were breaking down and an elliptical ulcer the size of a little-finger nail had developed, which within the next few days began to heal. On October 2 some erythema over the exposed area had developed and treatment was given up until October 8. By October 8 the last lesion had disappeared. From October 8 to date the patient has had daily exposures on the left side of the chin and on the neck under the chin. These exposures have been continued for two reasons: 1, the old keloid-like scars had shown under the exposures great improvement in flexibility, softness and color, and it was desired to carry this effect as far as possible; 2, to destroy any concealed lesions still present. Since October 8 I have not been able to find any evidence of disease.

The technique of the treatment which I have used is that of Schiff and Freund. It consists of repeated exposures to a weak light of definite strength. The light is produced by a secondary current generated in an induction coil of 30 cm. spark-length, which in turn is energized by a very weak primary current. The primary current which I have used is that recommended by Freund, namely. a current of 12 volts and 1½ amperes interrupted from 800 to 1000 times per minute. The exposures are continued from five to fifteen minutes, and the distance of the tube from the surface varied from 15 to 5 cm. Adjacent surfaces are protected by lead masks. The object to be obtained by the exposures is, of course, to get the required effects of the rays without overstepping the bounds of safety.

The case is presented as one healed by exposures to Roentgen rays. The results of the treatment are indicated in photograph, Fig. 2, taken November 10. It is at once admitted that whether it is a complete cure or not can only be determined by the lapse of time. There remain now, excepting the scars, no evidences of the disease; and even should more or less recurrence of the lupus take place, I believe the results may still be called extraordinary. Attention is called to the character of the scars. The only thick ones left are those which were in existence before the treatment began, and they have become less prominent, much softer and more pliable. The scars which have taken the place of the ulcers present when treatment began are soft, thin, flexible and white, and are as healthy-looking as they could possibly be. At the beginning the scars on the neck interfered very considerably with motion; now they interfere scarcely at all.

Certainly none of the usual methods of treatment by surgical means could produce such a result. The only other method of treatment which is comparable, as regards the cosmetic results, is Finsen's treatment by ultra-violet light, and his results are probably the same as those attained by Roentgen rays. In celerity of treatment Finsen's method does not compare with that by X-rays. Finsen's patients have about an hour's exposure daily for each 1.5 centimeter square of disease, and accordingly a cure is a matter of one or two years. In order to fortify the effects of the light, moreover, Finsen resorts to pyrogallic acid, curetting and other local adjuvants to treatment. The effects of the X-rays is sufficient without these aids.

This method of treating lupus has been in use in some German and Austrian clinics for three years. Most of the work has been done by Schiff and Freund, of Vienna, and by Kummell, of Hamburg. Single, or a few, cases of lupus cured by this method have been reported by various men in Europe. My case is, as far as I know, the third reported in the United States. P. M. Jones,[1] of San Francisco, reported a lupus cured by Roentgen rays, and another showing improvement under treatment. The second case was reported in THE JOURNAL, November 10, by Dr. J. T. Knox, of Cincinnati.

103 State Street.

TUBERCULOSIS OF THE TESTICLE.

WITH SPECIAL CONSIDERATION OF ITS CONSERVATIVE TREATMENT.

JOHN B. MURPHY, M.D.

CHICAGO.

(Concluded from p. 1411.)

CASE 6.—Mr. G. L., aged 37 years; occupation, carpenter. Admitted to Alexian Brothers' Hospital Sept. 21, 1897.

Present Illness: About one year ago patient began to cough and lose flesh. Since then he has coughed continuously, expectoration being at times quite profuse, and occasionally bloody. Loss of flesh has been marked. For some time past he has had afternoon fever, night sweats, loss of appetite and diarrhea. Three years ago he developed an empyema, which was opened and drained by Dr. Murphy. The empyema sinus is still discharging pus. Four months ago patient noticed a small nodule in the right testicle at its posterior and lower portion. This has gradually increased in size, but has caused no pain or other symptoms referable to it. Complains of increased frequency of urination.

Previous History: No points of interest except those given above.

Examination of patient shows physical signs of the conditions recorded in the history. The nodule in the globus minor is about the size of a hickory-nut. The testicle proper is apparently not involved.

Operation Sept. 23, 1897. Operator, Dr. J. B. Murphy, assisted by Dr. Moran. Incision through the scrotal coverings down to the epididymis. Epididymis picked up with forceps

1. Phila. Med. Jour., Jan. 6, 1900.

and dissected from testicle proper, beginning below and passing upward, the spermatic vessels being left intact. Cord ligated high up and its lumen cauterized with 95 per cent. carbolic acid. External wound closed after first replacing testicle in scrotum. Small gauze drain left in lower angle of wound for twenty-four hours. Convalescence after operation was uneventful, and patient was discharged from the hospital cured, so far as his testicular trouble was concerned, Nov. 15, 1897.

This patient later developed a tuberculosis of the spine, and died from a general miliary infection some months after the operation. No recurrence of symptoms referable to the genito-urinary organs.

CASE 7.—Mr. W. C.; nativity, Ireland. Age, 38 years; married; occupation, laborer. Admitted to Cook County Hospital Oct. 6, 1897.

Present Illness: About seven months ago patient first noticed swelling in the left side of the scrotum, which swelling had appeared quite suddenly and attained a somewhat larger size than at present in the course of a few days. Its appearance was accompanied by sharp, shooting pains. The swelling remained stationary for five or six weeks, when it partially subsided. The pains decreased with the reduction in size of the testicle. About five weeks before admission to hospital a similar swelling developed in the right side of the scrotum, this running a course resembling the above. He now complains of some pain in the right testicle.

Previous History: Denies syphilis and gonorrhea. Has two children, oldest 18 and youngest 2 years of age. Family history entirely negative as regards tuberculosis.

Examination: General nourishment good. Scrotum presents on the right side an ovoid mass, about 3 by 6 cm. in size, situated posterior to the body of the testicle, which is apparently uninvolved. This ovoid mass is composed of several hard nodules. The spermatic cord is negative. On the left side the epididymis answers to the same description as on the right, but here the tunica vaginalis is distended with fluid. Rectal examination shows the prostate and vesiculæ seminales to be normal. Left spermatic cord normal.

Operation Oct. 29, 1897. Operator, Dr. J. B. Murphy, assisted by Drs. Simpson and Morf. Incision into scrotal sac on each side down to the tunica vaginalis. Hydrocele on right side evacuated. Epididymis on both sides now removed by dissecting each from its testicle proper, carefully avoiding the spermatic arteries and veins. Testes replaced in scrotum, hemorrhage controlled and external wound closed with silkworm gut sutures; gauze drainage in each lower angle. Patient was discharged cured Nov. 12, 1897.

Unfortunately we have been unable to locate the patient since his discharge from the hospital, so can not report as to final outcome of the operation.

CASE 8.—Mr. W. L. M., aged 35 years; occupation, clerk. Admitted to Mercy Hospital, July 18, 1898.

Present illness began about one month ago with sudden painful swelling of the right testicle, the pain being quite severe and aggravated by patient being on his feet. He has had almost constant headache since the onset. Appetite is good; has no night sweats or fever. Since onset of trouble he has lost considerably in weight; bowels are constipated. Patient complains of frequent urination, it being necessary for him to get up several times every night to void urine.

Previous History: At the age of 13 years he had enlarged cervical glands, which disappeared under treatment. He has also had "scarlet fever" and "cystitis." No specific history.

Family History: One aunt died of miliary tuberculosis.

Examination of patient negative, except as regards sexual glands. On posterior surface of the right testicle there is a hard nodular mass, slightly tender to pressure. The testicle proper is apparently normal. A small amount of fluid is present in the cavity of the tunica vaginalis; cord not involved.

Uranalysis on Admission: Quantity in twenty-four hours, 1200 c.c.; specific gravity, 1011; reaction, acid; color, yellow, cloudy. No albumin, no sugar. Microscopic examination, small amount of pus, no casts.

Operation, June 20, 1898. Operator, Dr. J. B. Murphy, assisted by Drs. Bick and Daly. Incision on right side of scrotum down to epididymis and into sac of tunica vaginalis. This incision was extended upward to the external inguinal ring. The nodular epididymis was dissected from the testicle proper, beginning below and passing upward, leaving the testicle and spermatic vessels intact. The vas was ligated and amputated high up, and the lumen of the stump cauterized with a red-hot needle. A few catgut sutures were introduced into the tunica albuginea to check oozing, and the testicle proper then replaced in the scrotum. The fascia was sutured over the cord with buried catgut and the skin wound closed by means of a subcutaneous suture of fine catgut. Collodion dressing.

The patient made a perfect recovery and was discharged cured Aug. 6, 1898. Urinalysis on the day of discharge from hospital showed the following: Slightly cloudy; reaction, acid; specific gravity, 1012; no albumin; no sugar. Microscopic examination, very small amount of pus.

(For ultimate result see under Case No. 9.)

CASE 9.—Mr. W. L. M., aged 35 years. (See Case No. 8.) Admitted to Mercy Hospital Sept. 30, 1898.

Present Illness: Last July, about two months ago, patient underwent an operation for the removal of the right epididymis. Shortly after operation left testicle became swollen, slightly tender and painful, and this condition has persisted, gradually becoming more severe, until the present time. He still complains of frequent urination.

Examination shows nodular swelling of the left epididymis, adherent to the surrounding structures, very hard and slightly tender to compression. There is no sign of recurrence of trouble on the right side. Chest and abdomen negative.

Uranalysis, Oct. 1, 1898, yellow, slightly cloudy, reaction acid, specific gravity 1015, no albumin, no sugar. Microscopic examination, small quantity of pus; no casts.

Operation Oct. 1, 1898. Operator, Dr. J. B. Murphy, assisted by Drs. Rogers, Baccus and Daly. Incision one and a half inches long parallel to raphe, near the bottom of the scrotum; small amount of fluid escaped. Testicle drawn out and epididymis dissected off, leaving the vessels passing to the testicle proper intact; vas ligated, amputated and lumen cauterized. Testicle returned to scrotum and skin wound closed by means of a buried suture of silkworm gut. Small iodoform gauze drain left in lower angle of wound. Uneventful convalescence after operation. Patient discharged as cured Oct. 15, 1898.

Uranalysis, Oct. 3, 1898, quantity in twenty-four hours, 1250 c.c., pale yellow, slightly turbid, reaction neutral; specific gravity, 1012; no albumin, no sugar.

Microscopic examination: Numbers of epithelial cells and a very few pus cells.

Examination of patient Nov. 9, 1899. General health excellent. No recurrence of tubercular trouble in either testicle, both being apparently normal. No atrophy has taken place. Patient now has no vesical irritation.

Examination March 25, 1900. Patient feels perfectly well; has gained fifteen pounds since last operation, now weighing 145. The sexual desire is the same as before the onset of the disease, and the sensation attending intercourse is unchanged. The seminal emission is less than normal, and patient now has no nocturnal emissions. The vesical irritation has entirely disappeared.

CASE 10.—Mr. S. R. A., aged 47 years; married. Admitted to Mercy Hospital Sept. 30, 1898.

Present Illness: Several months ago patient first noticed a small nodule, slightly painful and tender to pressure, on palmar aspect of right index finger. This steadily enlarged and some swelling developed along the entire length of the finger, extending into the palm. Several weeks after swelling was first noticed patient received a slight traumatism to the left testicle. Almost immediately afterward testicle became swollen and the epididymis gradually developed the hard nodular condition which is now present. Testicle is only slightly painful and tender under compression. Patient complains of some increased frequency in urination, and the

urine is cloudy. He has no cough and the general health is good. No tuberculosis in family.

Examination of the Patient: Large stature; well nourished; heart, lungs and abdomen are negative. Index finger of right hand swollen along its entire palmar aspect, the swelling extending into the palm. It is only slightly tender to pressure, the skin over it is not reddened, and along the course of the tendon several small nodules can be felt. Function is much impaired. Left epididymis is thickened, hard, nodular and adherent to the surrounding tissues. The spermatic cord is apparently not involved.

Uranalysis, Oct. 1, 1898. Quantity in twenty-four hours, 1200 c.c.; reaction acid, specific gravity, 1014; color, yellow; cloudy, trace of albumin, no sugar. A few granular casts and pus cells were found under the microscope.

Operation Oct. 1, 1898. Operator, Dr. J. B. Murphy, assisted by Drs. Rogers and Daly.

1. Finger. Esmarch on wrist. Incision on palmar surface of finger along its entire length down to tendon; numerous rice bodies escaped. Fungus granulations dissected out, hemorrhage controlled and wound closed with buried silkworm gut suture. Collodion dressing.

2. Testicle. Incision one and a half inches long near the bottom of the scrotum on the left side, into the cavity of the tunica vaginalis; small amount of hydrocele fluid escaped; testicle drawn out and diseased epididymis dissected from it, the dissection beginning below and proceeding upward. The spermatic artery and veins were left intact; the vas ligated and amputated high up and its lumen cauterized with 95 per cent. carbolic acid. One or two fine catgut sutures were used to draw together the edges of the abraded surface, left by the removal of the globus major. Testicle now returned into the scrotum and the wound closed by means of buried catgut suture, a small gauze drain being left in the lower angle of the wound.

Uninterrupted convalescence followed the operation, and patient was discharged cured Oct. 10, 1898.

(See Case No. 11 for result.)

CASE 11.—Mr. S. R. A. (see Case No. 10), aged 49 years. Admitted to Mercy Hospital Feb. 13, 1900.

Present Illness: Since Oct. 1898, when patient underwent operation for the removal of the left epididymis, his health has been good. Five or six months ago some soreness developed in right epididymis, and a small hard nodule became palpable. There has been no pain in the testicle except on pressure. He complains of frequent urination, the act being accompanied by some pain at the base of the bladder. General health at present is good.

Family history and previous history given under Case No. 10.

Examination of the Patient: Nourishment good; lungs, heart and abdomen negative. Cicatrix on palmar aspect of index finger of right hand present; no recurrence of trouble here. Left epididymis absent, and the wound left by former epididymectomy now scarcely noticeable. No atrophy of left testicle and no sign of recurrence of tubercular trouble. The right epididymis is hard, nodular and slightly tender to pressure, the process being confined quite closely to the globus major. The vas is apparently uninvolved. The right seminal vesicle is slightly thickened, while the left is apparently normal.

Uranalysis Feb. 17, 1900. Color, light yellow, slightly cloudy; acid reaction; specific gravity, 1015; urea, 1.5; albumin, trace; no sugar.

Microscopic examination: A few hyaline and granular casts found. Pus cells numerous. Tubercle bacilli found in the centrifuged specimen.

Operation Feb. 14, 1900. Operator, Dr. J. B. Murphy, assisted by Drs. Lemke and Eggert. Incision two inches long into cavity of tunica vaginalis over nodular epididymis, just to the right of it. Testicle brought out of wound; tunica vaginalis incised at upper border of testes, and dissected from epididymis laterally. Epididymis now dissected from the testicle proper, leaving the nutrient vessels of the latter intact; vas clamped as high as possible, amputated and lumen cauterized with 95 per cent. carbolic acid. Abraded surface left by removal of the epididymis now covered by flaps of tunica vaginalis and testicle returned into the scrotum. Small gauze drain introduced into lower angle and the external wound closed with silkworm gut sutures. The day after the operation irritability of the bladder had almost entirely subsided, and has not since returned. Convalescence was uneventful, and patient left hospital March 3, 1900.

Several later examinations of the urine show a small amount of albumin to persist, with a few hyaline and granular casts. In the centrifuged specimen pus cells are still found, though in smaller numbers than before operation. Tubercle bacilli have also been demonstrated on several occasions since the last operation.

Examination of patient June 20, 1900: General health excellent; has gained fourteen pounds since the last operation; appetite is good. There are no signs of recurrence of the tubercular trouble in either testicle. Vesical irritability not now present, although occasionally he is obliged to urinate somewhat more frequently than normal. No pain on urination and no blood passed. Rectal examination shows in each seminal vesicle a small, very hard nodule, which is only slightly tender to pressure. The foci in the seminal vesicles have evidently become encapsulated, as there are now no tubercle bacilli present in the urine. We believe that the seminal vesicles were the source of the bacilli which persisted so long after the last operation.

CASE 12.—Mr. P. McC., aged 30 years; married; occupation moulder. Admitted to Alexian Brothers Hospital March 11, 1900.

Present Illness: Patient has a double hydrocele, each side being as large as a goose egg. Scrotum has gradually increased in size since November, 1899. Patient complains of pain in lumbar region and scrotum; also of great weakness.

Previous History: Diseases of childhood; specific urethritis five years ago. Initial lesion of syphilis ten years ago. Inguinal adenitis in 1894. Operation for hernia in 1899.

Family History: Negative as regards tuberculosis.

Examination of Patient: Heart and lungs negative; cicatrices of hernial operation in both inguinal regions.

Genitalia: Scrotum very much enlarged, due to double hydrocele. Testicles situated below and behind the fluid sacs. Both testicles are apparently somewhat enlarged, and epididymi enlarged and nodular, especially in the region of the globus major.

Uranalysis: The urine contains some pus, and the centrifuged specimen shows tubercle bacilli.

Operation March 12, 1900. Operator, Dr. J. B. Murphy, assisted by Drs. Lee and Hess. Two incisions, one on each side of the median line of scrotum. Hydroceles exposed, sacs opened and fluid evacuated. Testicles drawn out and inspected; both epididymi nodular and thickened, the tubercular deposits extending for a short distance on to the tunica albuginea of the testicle proper. Both hydrocele sacs dissected out and removed; both epididymi and adjacent tunica albuginea removed by dissecting from the testicle proper, beginning below and passing upward, leaving the vessels of the testicle proper intact. Cords isolated, and the vas on each side clamped and ligated high up. Lumina cauterized with 95 per cent. carbolic acid. Cut edges of tunica albuginea approximated and sutured. A small gauze drain inserted at the lower angle of each scrotal incision and external wounds closed.

Microscopic examination of epididymi showed large amount of old fibrous connective tissue, with a few scattered tubercles containing giant cells.

Convalescence uneventful, and patient discharged from the hospital March 15, 1900.

We have been unable to trace this patient since his discharge from the hospital, so can not report on his present condition.

CASE 13.—Mr. J. M., aged 37 years; German; married. Admitted to Alexian Brothers' Hospital, April 1, 1900.

Present illness dates from two months ago, when patient was taken sick with high fever, pains all over the body and

other symptoms of an acute infectious disease. He had no cough or any localizing symptoms at first, but two days after the onset the left testicle suddenly became swollen, and he experienced some pain in the left inguinal region. Testicle continued to enlarge for a number of days, but was not tender, and was the seat of no pain. He did not complain of frequent urination, and never passed blood in the urine. The bowels have been constipated, and he has some pain in the rectum during defecation.

Previous History: Patient states that twelve years ago he "strained himself," and soon after had some swelling and pain in the right testicle. The symptoms subsided after a few days, but a nodule remained in the upper and posterior portion. This nodule enlarged slowly and two years ago a surgeon incised the swelling and allowed "water" to escape. No tissue was removed at that time, and the nodule is still present. One year ago patient suffered from very frequent and painful urinations, and on two occasions passed some blood in the urine. At that time he had fever, and during the six months that the trouble persisted lost twenty or twenty-five pounds in weight. He had no symptoms directly referable to the testicles at that time. After about six months the symptoms disappeared and he was in good health until the onset of the present trouble, two months ago. He denies absolutely ever having had any venereal disease. No history of injury. He is married and the father of a number of children.

Family history presents no points of interest. No tuberculosis in any of the members so far as can be ascertained.

Examination of Patient: Medium stature; nourishment poor; temperature, 98.6 F.

Heart and lungs negative. Abdomen, some slight diffuse tenderness. The edge of the liver is palpable three-quarters of an inch below the costal arch. Kidneys are not palpable. There is quite marked tenderness in the right lower quadrant of the abdomen.

Genitalia: In right epididymis there is a hard, round and slightly tender nodule in the globus major. The vas deferens passes somewhat more anteriorly than normal, and the testicle is rotated so that the epididymis lies to the inner side rather than posteriorly. In the left epididymis there are numerous hard nodules massed together. The cord is thickened and tender at its lower portion.

Rectal Examination: Both seminal vesicles are enlarged, the right soft, the left nodular and tender. Urine, yellow, turbid, reaction acid. Trace of albumin. The microscope reveals pus cells and a few red cells. No tubercle bacilli found.

Operation April 12, 1900. Operator, Dr. J. B. Murphy. Incision over the left epididymis and cord, epididymis dissected from testicle proper, leaving the spermatic vessels intact. The cord was dissected from the surrounding tissues up to the internal ring, where it was ligated, amputated, and the lumen cauterized with 95 per cent. carbolic acid. Testicle proper replaced in scrotum, and wound closed with subcutaneous suture, leaving a small gauze drain in the lower angle. Right epididymis not operated upon, as the process had evidently been arrested by encapsulation. Convalescence was uneventful, and the patient discharged about ten days after operation.

Since discharge from hospital, pain in the left groin has persisted. Left testicle is tender, as is also the stump of the amputated cord. Occasionally he is obliged to pass the urine oftener than normal, but has passed no blood. Complains of some pain in the left ilio-lumbar region, which is aggravated by stooping forward. Defecation is still painful. He states that his weight is the same as before operation. Has no chills, fever or sweats. Has some burning pain in the urethra during urination. There is a small discharging sinus in the cicatrix on the left side of the scrotum, and the tissues posterior to the testicle and at the stump of the cord present some inflammatory infiltration. Both seminal vesicles are in the same condition as they were when patient was admitted to the hospital. Heart, lungs and abdomen negative.

In a letter written August 25, 1900, patient states that he is at work and feeling better, but still has considerable pain in the left side and back. It was not possible for him to come to the city for examination.

I desire to express my appreciation of the valuable services rendered by Dr. J. M. Neff in the preparation of this paper.

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A YOUTHFUL DECEIVER.

JOHN J. KYLE, M.D.

INDIANAPOLIS, IND.

The matron of one of our benevolent institutions, situated in the northern part of the state called my attention recently to what she regarded as a remarkable case.

A child of 10, some two years ago, contracted purulent ophthalmia, which destroyed the sight of the left eye, compelling enucleation. An artificial eye was fitted, which has been worn with comfort. Since July last, the matron tells me, there has been forming under the upper and lower lids of the right eye, three or four times a day, large lumps of a mucopurulent character, which would be discharged spontaneously, or on lifting the lids. Sometimes two lumps would be discharged at the same time. They could be seen moving and thus excited further interest in the case. Since July 1, the child has been under constant observation, making daily trips to the oculist.

When I separated the lids, a large lumpy deposit naturally excited my curiosity. On examination, the deposit was found to be fibrous bands of lint picked from the cloth given to the child to dry the eye. This would be rolled into a small ball and inserted under the lids, as stated above. When it became thoroughly saturated from discharge from the lids it would slip about, and for want of a careful examination, the child was enabled to practice this deception for a long time.

The child confessed that she did this to excite sympathy, to escape work, and to enjoy the drive into the city to consult the physician. She is now free from further inflammation of the lids.

This case is interesting in that a child so young could conceive and practice such deception, and that a foreign body could be worn in the eye without causing great pain and more destructive inflammation, and lastly as an evidence of degeneracy.

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TEMPORARY RIGHT-SIDED COLOSTOMY IN CHRONIC DISEASES OF THE COLON.

On page 1475 of this issue of THE JOURNAL, is an article on "Colostomy for the Cure of Amebic Dysentery," which again forcibly illustrates the value of physiologic rest in the treatment of a diseased organ. Amebic dysentery is a serious disease. Harris, in an excellent article[1] on the subject, says that out of 78 cases reported in this country there have been 30 deaths, and that after it becomes chronic the chances of recovery, even with the best treatment, are always bad.

In view of such an unfavorable prognosis under medical treatment, temporary colostomy, as practiced by Barbat for Sullivan with such excellent results, is certainly to be commended in suitable cases. The formation of an artificial anus at the ileocecal valve in amebic dysentery was suggested some years ago by Corson,[1] but it is not shown that he ever put his suggestion into practice. His object was to permit the application of peroxid of hydrogen to the entire colon. The same procedure had already been proposed in the treatment of chronic dysentery, and Ballance[2] reports a case of dysentery in which he produced an artificial anus by severing the ileum close to the ileocecal valve and bringing both ends of the bowel to the surface. His intention was to wash out the colon, but his patient died from hypostatic pneumonia one week later.

Goodlee[2] also reports a case of chronic dysentery in a young lady on whom he performed a left colostomy for the purpose of preventing the passage of the intestinal contents over the inflamed rectal surfaces. Marked improvement followed the operation, but unfortunately the patient died a short time thereafter from a phlebitis, which, it is said, bore no relation to the dysentery. It is not stated that these cases were due to the ameba coli, but it is quite possible that Goodlee's was due thereto, as the disease was contracted in India and was complicated by an abscess of the liver which was operated on, the patient recovering after the operation.

Right-sided colostomy has been performed for other chronic diseases of the colon with the result of curing what had otherwise proved to be intractable conditions. Keith[3] opened the right colon in a case of chronic membranous colitis with complete success, as the symptoms were at once relieved. The artificial opening was closed eight months later and the cure continues up to the time of reporting the case.

W. Hale White and C. H. Golding-Bird[2] report a case of right-sided colostomy for membranous colitis in a woman 30 years of age who had been afflicted for ten years. The colon was flushed simply with warm water. No antiseptics were employed, as it was feared they might irritate the bowel, and besides improvement was so rapid they were not deemed necessary. Two months later the artificial opening was closed. The patient did well for about two months, when she died rather suddenly from acute peritonitis, supposed to have been due to the rupture of an ovarian or tubal abscess.

Macpherson Lawrie[4] reports a case of membranous colitis of ten years' standing in which he performed right inguinal colostomy with prompt recovery. The artificial anus was closed seven months later and the cure continued. Franke[5] also reports a case of colica mucosa cured by right-sided colostomy. J. Schwab[6] mentions Sklifasowski's case of multiple polypi of the colon in a man 51 years of age, who had suffered for seven years with diarrhea and colic and had become greatly emaciated and reduced in strength. Rapid improvement followed colostomy and in two months he was able to resume his business.

In all of these cases, with the exception of Goodlee's, the bowel was opened on the right side. In his case the sigmoid was chosen but found to be too low, as the disease extended higher up. Although right-sided colostomy will permit more thorough flushing of the colon and a direct application of the medicaments to its surface, the chief factor in bringing about recovery in these cases is undoubtedly the physiologic rest given the diseased bowel, as, in all cases, marked and rapid improvement was noted to follow at once the diversion of the intestinal contents.

The favorable results which followed this method of treatment in the above-mentioned cases indicate that temporary right-sided colostomy might oftener be employed to advantage in many of the chronic and intractable diseases of the large bowel.

1. Amebic Dysentery, Am. Jour. Med. Sci., 1898, cxv, 384.
2. Trans. Clin. Soc., London, 1896, xxix.
3. The Lancet, London, 1895, i, 639.
4. Brit. Med. Jour., Nov. 5, 1898.
5. Grenzgebiet d. Med. u. Chir., Bd. i, H. 3.
6. Beiträge zur Klin. Chir., 1897, Bd. xviii, s. 353.

SO-CALLED CHRONIC PROGRESSIVE CHOREA.

The time seems ripe for a thorough study and a careful differentiation of the numerous varieties of irregular, involuntary, incoördinate movement, to several of which the designation chorea has been applied. It would appear best, for purposes of demarcation, to restrict the use of this term to the disorder described by Sydenham, and commonly known as chorea minor, in order to distinguish it from other disorders simulating it. This affection may be considered an acute, infectious, self-limited disease, while at least some of those improperly grouped with it are dependent on

organic lesions. One of the best defined of the latter is the disorder that has been designated Huntington's, or hereditary, or chronic progressive, chorea, among the peculiarities of which are its hereditary character, its development late in life, its progressiveness of course, its complication by dementia, and the presence of degenerative changes in the brain. It is probable, however, that some of the cases that have been described as being of this nature represent other and wholly different organic disorders of the brain.

A certain similarity, both clinically and pathologically, between chronic progressive chorea and paretic dementia has been suggested. The former disorder is considered essentially hereditary, not appearing in the descendants of those free from it. It usually sets in insidiously, after the age of 35, and it is equally common in the two sexes. The movements may appear at first in the face and be attended with difficulty in articulation, and spread to the arms and legs; or they may be general from the beginning. The dementia may be contemporaneous with the twitching, or precede or follow it, although occasionally no symptoms of mental aberration appear. The disease is chronic in course, lasting from ten to twenty years, and death commonly results from exhaustion. Various lesions have been found post-mortem, namely, meningitis, hematoma, neoplasm, hyperplastic change in the vessels, in the cellular elements, and in the connective tissue of the nervous system, atrophy of cerebral convolutions, degeneration of cortical neurons and reduction in their number and connections, dilated lymph-spaces, cysts, general muscular degeneration, etc., all of which were noted in a case recently reported by Good, in which the post-mortem anatomic findings are elaborately described. The disease is clearly one with profound degenerative changes and its relations and analogies are far from being as yet satisfactorily elucidated.

An interesting contribution to the subject of chronic progressive chorea has recently been made by Kattwinkel,[1] who details the results of a histologic study of the brain of a case occurring in a man 61 years old. Macroscopically the cerebral cortex presented slight atrophy, the gyri being reduced in size and the sulci enlarged, as compared with those of a normal brain. On microscopic examination the atrophy was found to be dependent on degeneration and disappearance of the supratagential layer of fibers and the radiating fibers, especially in the motor area. In addition, an infiltration of leucocytes was found in the region of the large pyramidal cells and in the layer of polymorphous cells. These cells lay in dilated pericellular lymph-spaces and they are surrounded in varying number, often up to eight, a single ganglion-cell, which they compressed. Further, the adventitia of the blood-vessels was thickened by strands of connective tissue surrounding the lumen of the vessels, especially in a concentric manner. The changes described do not coincide entirely with those that have been recorded by other observers, but they are indicative of the organic basis of the disease, the lesions being situated especially in the cortex and the subcortical tissues. These alterations have been attributed to abnormal distribution of the neuroglia and also to disseminated miliary cortical and subcortical encephalitis, originating from disease of the blood-vessels. In the case reported the conditions are ascribed to infiltration of the pericellular lymph-spaces by leucocytes, giving rise to compression of the ganglion-cells, followed secondarily by atrophy of the cortex. The origin of the disorder is referred to the vascular disease demonstrable in all parts of the brain. It can be readily conceived that such infiltration by leucocytes might give rise to irritation of the motor cells and fibers. Further, the secondary atrophy of the cerebral cortex, especially of the frontal lobe, would readily explain the mental disturbances.

1 Deutsches Archiv f. Klin. Med., B. lxviii, H. 1 u. 2, p. 23.

THE SCIENTIFIC BASIS OF ORGANOTHERAPY.

It is possible that even in the remote past there have been glimmerings of an empirical application of the principles of organotherapy, but although these principles are still far from established on a permanent basis, it is only since Brown-Séquard began the use of testicular extract and suggested its mode of action that we have come to employ glandular preparations with any degree of precision in the treatment of various morbid states. Then followed the brilliant observations with regard to the relation between disease or surgical removal of the thyroid gland, on the one hand, and cretinism, myxedema, and the cachexia strumipriva on the other hand, and their successful control by means of transplantation or administration of preparations of the gland obtained from the lower animals. The results from the use of adrenal preparations in the treatment of Addison's disease have been scarcely as striking, although those preparations have shown themselves possessed of profound physiologic activity. While destruction of the pancreas is sometimes attended with diabetes, the disorder does not yield to the administration of pancreatic preparations; and acromegaly, so often associated with disease of the hypophysis, does not respond to the administration of preparations of this organ, perhaps because the condition is already one of hypertrophy and over-action, in the same way as, and for the same reason that, exophthalmic goiter is aggravated by the administration of thyroid extract. Further, there is, as yet, no evidence justifying the employment of extracts of kidneys, liver, heart, spleen, brain, and spinal cord, in the treatment of disorders of these various organs.

What the future of organotherapy shall be it is impossible to predict, but if the therapeutic principle on which this method of treatment is based had to its credit nothing more than the successful management of cretinism and myxedema, there would be ample justification for its continued application. Some of the

cytologic problems connected with this subject have recently been discussed in a most forceful and philosophic manner by David Hansemann,[1] in an address delivered before the Association of German Naturalists and Physicians. As he points out, the therapeutic employment of glandular structures is based on the assumption that specific substances supplying some need of the body are produced in different organs. It may be accepted that every organ is necessary in the healthy body, though perhaps in varying degree. Each takes something from the circulation—and some are provided with excretory ducts—and each adds something to the circulation. This latter we have grown accustomed to designate an internal secretion, in contradistinction from the former, which may take the form of an external secretion.

Although the cellular elements of the blood are supplied essentially by the spleen, the lymph-glands and the bone-marrow, the plasma is the composite product of the metabolic energy of all the cells of the body. Consequently, any alteration in the functional activity of any organ must result in changes in the constitution of the blood, and this in turn will influence the activities of the remaining organs. The intensity and the rapidity of the resulting effects will vary with the size and importance of the organ in question. No tissue, therefore, can suffer without injury to all others and to the entire body. Each possesses a specific and important function with relation to all of the others. This peculiarity is due to a like quality of the cells by which, in turn, it is derived from the parent-cells. Organotherapy consists in supplying artificially substances by means of which the activity of diseased or absent organs can be replaced, particularly with reference to internal secretion. There is, however, no sufficient reason for believing that a gland from one animal will have the same chemical constitution or the same physiologic action as the like gland from all other animals, and it is in this connection especially that important studies need yet to be made.

EPIBRONCHIAL PRESSURE POUCHES OF THE ESOPHAGUS.

Since the classical work of Zenker and Ziemssen, dividing the esophageal diverticula according to their origin into traction and pressure diverticula, this subject has received contributions of only minor significance; these have taken the form of contentions as to the structure of the pouches or concerning the influence of pressure on the enlargement of pouches already formed by traction, or have been reports of single cases of peculiar nature or origin. These investigators located pouches, originating solely by pressure from within, at the beginning of the esophagus, or at its junction with the pharynx; it often happens that a part of the pharyngeal wall forms part of the pouch. In this region such pressure pouches form in the median line of the posterior wall or slightly to one side, and often attain considerable size. Such diverticula, formed entirely by pressure from within, have rarely been observed in other parts of the canal; Brosch[1] was able to find mention of only two, and one of these—that reported by Chavasse—began four inches below the arytenoid cartilage and was large enough to contain 680 c.c.

In the examination of 300 bodies, Brosch found two diverticula that have a special interest, since they are both considered to be pressure diverticula and are intrathoracic. In both instances the diverticula projected into a region named by Brosch the *cavum broncho-aorticum*. This region, only present on the left side, is formed between the left bronchus and arch of the aorta. As the latter arching to the left and backward crosses the esophagus to lie on its left side, there is a narrow space left between it and the bronchus below, which crosses the esophagus to reach the lung. This interval is obliquely directed to the left and downward; it is bounded above and externally by the aortic arch, below and internally by the left bronchus, in front is the ductus arteriosus, and behind the left lateral wall of the esophagus for a short distance faces forward in the interval. It is obvious that a large bolus of food passing downward comes, at this level, to a place where there is less resistance in the anterolateral wall of the esophagus; the vertebræ behind are firm, likewise the aortic arch above and the bronchus below; hence the esophagus may bulge into this *cavum broncho-aorticum*.

Of the two diverticula found in this region the larger one was the size of a walnut; the wall of the pouch consisted of the mucous coat; from its appearance it could be reasonably assumed that a hernia of the mucous coat had taken place through the outer muscular coats. There were no adhesions to the surrounding structures nor were there any cicatricial lymph-glands or indurative processes of the adjacent tissues that might have initiated the process by traction.

1 Berlin Klin. Woch., 1900, Nos. 41 and 42.

SURE CURE FOR CONSUMPTION.

Medical matters are always of interest to the laity and never more than at the present time when the public generally may be said to be on the *qui vive* as regards everything relating to sanitation and disease. This fact has its advantages, and there is little doubt that human life has been materially prolonged by popular education in the essentials of healthy living. Once in a while, however, popular medical instruction has its disadvantages, and may even materially abbreviate human life if followed. For example, the newspapers have recently been printing an account of a new consumption cure announced by a Vienna professor; the prescription contains .1 gram—1½ grain—of arsenous acid, with three times as much cinnamic acid, to be taken in about a teaspoonful of cognac and water after meals. Not having seen the original European authority we can not say what the actually recommended dose was, but the one printed would very likely put an end

1 Virchow's Archiv, 1900, clxii, p. 22.

to consumption and every other ailment of the patient, including "life's fitful fever," also. This is only one instance of inaccurate newspaper medicine, which however is not always so dangerous as in this particular case. Mistakes will happen even in medical journals, but their readers can recognize them as such; while they are almost the rule in newspaper medical literature and the average layman will accept them as gospel truth. The moral of the whole thing is for newspapers, if they wish to publish medical facts and do it accurately, to have a competent medical editor who will see that what goes out is approximately near the truth. There will probably be no serious result from the publication of this prescription, because the ordinary druggist would refuse to fill it.

POSTPONED PAN-AMERICAN MEDICAL CONGRESS.

A telegram received as we go to press announces the postponement of the International Medical Congress, which was to have been held at Havana, Cuba, December 26-28. The postponement is on account of the prevalence of yellow fever in and around Havana. While the disease is not understood to be spreading, or to be more prevalent than it was, at the same time the committee considered it advisable to make the postponement. The meeting will be held February 5. It is to be hoped that the postponement will make it possible for the profession of the United States to make a better showing than otherwise would have been possible.

THE FUNCTION OF THE PROSTATE.

Physiologists have differed much as to the function of the prostate. The question is reviewed carefully in Walker's recent study of the anatomy and physiology of the prostate gland.[1] It has been known for some time that the movement of the spermatozoa is markedly stimulated by the secretion of the accessory sexual glands. All anatomists state that in the testis the spermatozoa are immotile; in ejaculated semen they are all in lively motion. Artificial addition of prostatic fluid to semen taken directly from the testis induced lively motility of the organisms, continuing for twenty-one hours—Steinbach. In order to throw more light on this subject, Walker instituted a series of experiments on dogs, from the results of which it may be concluded that the immediate production of motility of spermatozoa is due to the thinning of the testicular secretion with the prostatic fluid; substances in this fluid, acting either as stimulants or as food, keep up a continued movement; unless a homogenous mixture is made of the two fluids, thick portions remain in which there is no movement. The testicular and prostatic fluids must be mixed, otherwise the organisms remain motionless; and the mixture must be homogenous; as the semen is a thick tenacious fluid, more or less mechanical means are required in order to produce a proper incorporation. Walker proceeds to show the existence of a most beautiful anatomic arrangement for this purpose: the ejaculatory ducts empty on the crest of the caput gallinaceum; the prostatic ducts converge toward the openings of the ejaculatory ducts. As the semen is poured out thirty to forty streams of prostatic fluid are sent into it. In this way a homogenous mixture of the testicular secretion and the prostatic fluid is produced and the best conditions for establishing motility of the spermatozoa secured.

1. Bull. Johns Hopkins Hospital, 1900, xi, 242-256.

THE PHYSICIAN-DRUGGIST.

The Cincinnati daily press report an instance of a physician applying for membership in the Academy of Medicine who was finally advised to withdraw his name for fear of unpleasant discussion and of possible refusal. The sole reason given was that the applicant owned and conducted a drug store. There is a feeling that it is not proper for a physician to conduct a drug store, as it affords too great opportunity for interference with the prescriptions and practice of other physicians. This feeling appears to be particularly strong in Cincinnati. The newspapers were, however, in error when they stated that the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION contains a clause preventing physicians who conduct drug stores from becoming members of local societies in affiliation with the ASSOCIATION. The point is nowhere raised in the Code of Ethics. While a physician who is also a pharmacist rarely has a large practice, yet his competitors naturally feel that it is unfair of him to expect to fill their prescriptions at the same time that he is practicing medicine in his store. Few, therefore, send prescriptions to such a store. Of course, each society has a right to decide on the qualifications of its members, but in general there seems to be no adequate reason for refusing membership to a physician-pharmacist as such.

VOODOOISM, NORTH AND SOUTH.

In Mississippi it is said a society has recently been organized, the object of which is the suppression of voodooism and voodoo doctors. Voodooism is a sort of African "Christian Science," modified by the special theologic predilections of the race. With the savage African who originated the voodoo cult followed by some of his descendants in this country, the supernatural powers are not beneficent, and, together with those that have most influence with them, are to be placated if possible, hence the voodoo superstition. It is the belief of the negro that disease can be caused by the prayer and incantations of the voodoo doctors, who, like the C. S. D.'s, thrive on the faith of their fellows. There is no excessive difference between the two; it is only in the point of view; the practice is not specially different. The Mississippi voodoo is not, so far as known, charged with the atrocity in his ritual of infant sacrifice after the manner of his coworkers in Hayti, or as it is done through neglect by his more northern co-operators, and in that respect may be considered more respectable than either, but they come together in many points. It is said that the original African cult is spreading in the south and involves not only the blacks by many of the whites, who live in daily fear of voodoo incantations. The recent suicide of a white man, induced by this dread, has called renewed attention to the society and its objects. The civil authorities, who have been indifferent heretofore, are to be invoked, and it will be interesting to note the progress of the reform. If the movement could only extend northward and in-

cite the vigorous action of the law against passive child-murder by northern voodooists, of whatever designation, it would be a good thing.

THE PROPOSED "TRUSTEE SYSTEM" IN THE NEW YORK CITY HOSPITALS.

The physicians of New York, especially those interested in Bellevue Hospital, are discussing the proposed change of administration of that institution under the new city charter revision bill. It is proposed to change the system of management of that group of the city hospitals that lie on Manhattan Island, by removing them from the supervision of the Department of Charities and Corrections and vesting their care in a board of trustees. The seven trustees of the city hospitals will be appointed by the mayor, who, according to the charter, must consult the presidents of various philanthropic boards and institutions in the city, in preparing the list of candidates, although he may appoint some not mentioned by his advisers. This change in method of management is avowedly to remove the hospitals from the evils of practical politics, and to place them under a distinctive form of government. To this end the terms of the new charter require that the trustees shall receive no salary for their services, nor shall they hold any political office with emolument, nor be interested directly or indirectly in any contract affecting the hospital. This is in nowise a reflection on the present administration of the Department of Charities and Corrections, for the present commissioner has achieved more for the good and the reputation of the hospitals, especially for Bellevue, than was ever before done, but his efforts, and the efforts of the medical staff have been in spite of the management, and not as the result of it. One of the chief evils of the present system is the change of control and management of the city hospitals with each change in the city's administration. This, has made the possibility of scientific advance depend on the character of the commissioner. It has placed the medical staff in the unsatisfactory position of doing the best they could under the circumstances, instead of giving them the advantage of achieving the best that could be attained. The truth of this position is enforced by the example of Boston and Cincinnati, in each of which cities the city hospital was incorporated by act of legislature between thirty-five and forty years ago, to be maintained as an institution by itself, independent of all other institutions, charitable or otherwise. The contrast between the peaceable, disinterested, efficient management of these hospitals, which are in every respect as desirable places for the sick as private hospitals, and the civic management of the public hospitals of Philadelphia, New York, San Francisco, St. Louis and Chicago, with their shifting administrations and party politics, shows decidedly the benefit of the trustee system.

Acute Hydrocephalus Cured by Antisyphilitic Treatment.—Neumann recently exhibited at Berlin a babe seventeen months old, apparently normal in growth and intelligence. A year before, the child had been affected with acute hydrocephalus, the skull measuring 47 cm. in circumference, the forehead and anterior fontanelle of exaggerated size. Inherited syphilis was suspected and 25 cgm. of potassium iodid were ordered daily with mercurial inunctions, resulting in a cure.

Medical News.

ALABAMA.

DR. THOMAS W. AYRES, Anniston, has accepted a hospital appointment from the foreign mission board of the Southern Baptist Convention, and has been assigned to Hwang Hien, North China.

BILLS have been introduced into the State Senate and House of Representatives asking an appropriation of $25,000 to relieve the insane hospital at Tuscaloosa from its present overcrowded condition. At present 1500 patients are crowded into a space intended for 1000, and halls and reception-rooms have to be used for patients.

ST. VINCENT'S HOSPITAL, Birmingham, which has just been completed at a cost of $200,000, opened for the reception of patients on Thanksgiving Day. The hospital has a capacity of 200.

A BILL forbidding the reckless and indiscriminate sale of deadly drugs, and especially directed against cocain, will be introduced in the legislature at the instance of the physicians of Birmingham.

CONNECTICUT.

DR. WILLIAM W. HORTON, New Haven, who was sued by a patient claiming that he had administered to her powerful drugs, as a result of which her hair and teeth fell out and her complexion was ruined, has won the suit, the costs to be recovered from the plaintiff.

A JOINT COMMITTEE of health officers and of the State Funeral Directors' Association met at New Haven, November 17, and formulated a bill to be submitted to the general assembly providing that physicians return death certificates within thirty-six hours after death, and that the physician shall certify on the death certificate to the cause of death and duration of the disease only. At present the doctor must swear to the age of the person and to the family history.

DELAWARE.

THROUGH the bequest of Elzy Wade, of Wilmington, who died a few days ago, $1000 will be given to the Delaware Hospital for the Insane. For a number of years Wade had been employed at that institution as night watchman.

DR. JOHN PALMER, JR., Wilmington, was re-elected supreme medical examiner of the Knights of the Golden Eagle at its annual meeting at Youngstown, Ohio.

DR. PETER W. TOMLINSON, Wilmington, has been elected president of the state medical examining board, to succeed Dr. Irving S. Vallandingham, Middletown, resigned.

DR. ALEXANDER LOWBER, secretary of the State Board of Health, has been notified that the second prize of a silver medal has been awarded the board of health for its exhibit of photographs of specimens at the Paris Exposition.

GEORGIA.

THE OSTEOPATHY bill was killed in the Georgia Senate by a vote of 19 to 18, November 18.

MACON CITY HOSPITAL is about to build an annex for colored patients, to cost $3000.

THE REPORT of the Georgia State Sanatorium shows that the increase of the insane in the state was four-fold greater than the increase in population. There are now 2495 patients in the sanatorium. During the year 49.75 per cent. of the patients suffering from acute insanity were discharged apparently cured.

ILLINOIS.

STERLING is to have a new hospital to cost $10,000. Plans are now being prepared under the direction of P. T. Van Horne and Dr. John F. Keefer. Contributions to the amount of $3900 toward the building fund have been received.

A STATE SANATORIUM FOR CONSUMPTIVES, state provision for the cure of epileptics, enlargement of the powers of the health authorities in enforcing penalties against those who refuse to take proper precautions to prevent the spread of contagious diseases, and provision for boards of health in counties not under township organization, are the chief recommendations in the forthcoming annual report of the State Board of Health.

Chicago.

THE CORONER-ELECT has named Dr. P. Johannes as coroner's physician.

DR. THOMAS A. WOODRUFF has been appointed professor of ophthalmology at the Post-Graduate Medical School.

DR. CHRISTIAN FENGER has given up his office-hours at his residence and has taken an office in the Reliance building.

DR. WILLIAM A. FISHER transferred to the Chicago Eye, Ear, Nose and Throat College on November 30 the property which

he recently bought at Washington and Franklin streets, which, after remodeling, will be the new abode of this post-graduate institution.

THE HEALTH COMMISSIONER estimates that he will need an appropriation of $281,374 for 1901, an increase of $47,724 over that required for 1900. This will provide for three additional meat inspectors, a statistician, a director of disinfection, an assistant recorder of births, a chief of antitoxin staff and a record clerk, and for the enlargement of the public baths.

JOHN H. RANDALL, arrested in connection with the Metropolitan Medical College case, has entered a plea of "nolle contendere," which probably means that he will testify against his fellow defendants when the case is brought to trial.

DR. M. N. REGENT has been sentenced to penitentiary under the indeterminate sentence law; in addition he has been fined $1000. He was convicted of swindling the Knights and Ladies of Security out of $2000 by passing off a cadaver as a deceased beneficiary.

DR. HENRY B. STEHMAN, to whose persistent work and skilled and tactful management the Presbyterian Hospital owes most of its success, has been compelled by continued ill-health to resign as superintendent of the institution, to take effect before Jan. 1, 1901.

THE TERMS under which the College of Physicians and Surgeons becomes the property of the University of Illinois have recently been made public. The university is to set aside a certain amount of the profits of the college and therewith form a fund which in twenty to thirty years will be sufficient to complete the purchase without the assumption of any financial liability.

DR. FILIPP KREISSL, who was sued for malpractice a few days ago with damages of $25,000, has filed a counter-suit, alleging that his feelings and professional reputation have been injured by the public statements that his treatment had failed to cure the patient, and claiming $50,000 damages.

INDIANA.

THE STATE FACTORY INSPECTOR, in his report, states that the fire protection at, and means of escape from, the Central Hospital for the Insane, Indianapolis, are very inadequate, and makes recommendations that fire walls be built and the bars on windows and doors be so arranged that they can be unlocked simultaneously.

DR. CORYDON RICHMOND, Kokomo, celebrated his 92d birthday, November 22. He was the first to practice medicine in the Miami Reserve, and settled in Kokomo in 1844. Although blind for ten years, he retains his interest in matters medical and in the State Medical Society, of which he has been a member for seventy years.

THE STATE BOARD OF HEALTH reports that there are more than 6000 physicians in Indiana, and in Marion county 602 are licensed. Of these 463 are regular practitioners, 53 are eclectics, 34 homeopaths, 38 physio-medicals, 1 hygeia-therapeutic and 13 unclassified.

KANSAS.

DR. W. B. SWAN, secretary of the State Board of Health, is preparing a bill against quacks and persons holding diplomas from fake medical colleges. It will be submitted to the legislative committees of the different medical societies in the state, and will bear the stamp of approval of the reputable physicians in the state before it is presented to the legislature. It will provide for the examination of physicians and their registration. All physicians now in the state will be required to register, and all except those holding diplomas from reputable colleges will be required to take an examination. Provision probably will be made to exempt physicians who have practiced twenty years or more in the State but hold no diplomas. Legislation along these lines has been desired by reputable members of the medical profession for years, and several attempts have been made to secure the passage of acts governing the matter. The bill will have the support of all schools, and every effort will be made to secure its passage.

KENTUCKY.

DR. EDWARD M. WILEY, Lexington, formerly superintendent of the Eastern Kentucky Asylum for the Insane, has been appointed a member of the board of pension examiners, made vacant by the resignation of Dr. Waller O. Bullock.

DRS. JAMES E. NEELY, James C. Carrick, and Thomas H. Kinnaird, Lexington, are defendants in a suit for $10,000 brought by S. C. Hickerson, who claims that a broken leg was not properly set by the defendants.

MICHIGAN.

THE Upper Peninsula of Michigan seems to be saturated with smallpox. Secretary Baker, of the State Board of Health, found nearly fifty cases in a dozen or more places in that region, the largest number of which were at Marquette.

DR. HEMAN SPALDING, who was called to Marquette to pass on a case of suspected smallpox, November 21, pronounced the case probably one of modified variola, and commended the city health department for its promptness in taking precautionary measures and quarantining the case.

DURING THE YEAR ended June 30, 1997 patients were admitted to the University Hospital at Ann Arbor, nearly 91 per cent. of whom were residents of Michigan. In the eye and ear clinic 889 cases were treated and in the pathological laboratory 621 specimens were examined and 340 cases passed on by the staff.

MINNESOTA.

DR. LEONARD F. CLAYDON, Mazeppa, returned from a six-months course of study in Europe on November 22.

THE MINNESOTA LEGISLATURE will be asked to make provision for a state sanatorium for consumptives.

ON NOVEMBER 30, the secretary of the State Board of Health reported that there were more than 300 cases of smallpox in Winona. If the disease increases quarantine will be established at St. Paul against Winona.

THE NEW PORTION of the City Hospital, Minneapolis, was opened to receive patients a few days ago. About forty patients were transferred to the wards on the ground floor of the new building.

THE HEALTH DEPARTMENT of Minneapolis announces that 208 cases of diphtheria were reported during the first twenty days of November, with 17 deaths.

THE HOSPITAL at Walker, used by the soldiers at the time of the Leech Lake Indian outbreak, has been reopened by the Walker Sanitarium and Hospital Association for the care of the lumbermen of Northern Minnesota.

MISSOURI.

DR. EDWARD C. L. RICHTER, St. Louis, physician at the House of Refuge, who contracted smallpox while in attendance on a case of the disease, is rapidly recovering and the quarantine will be raised in a short time.

THE CITY HOSPITAL, St. Louis, is said to be so cramped for funds that no money is available even for the purchase of gauze for bandages and dressing materials, and the requisitions for these necessary articles have not been filled by the city comptroller for this reason.

DR. CHESTER A. TYGART, city physician of St. Joseph, states that he has discovered in the last few weeks three unreported cases of scarlet fever. He intends to take action against the physicians who fail to make reports of contagious diseases.

NEBRASKA.

THE CITY COUNCIL OF OMAHA has appropriated $1000 to be used by the health commission in the prevention and care of smallpox and other contagious diseases.

"CUBAN ITCH" is prevalent in Grand Island, Scott's Bluff, Minatare, Bayard, and other neighboring towns, and the State Board of Health has been asked to investigate the disease, which is thought to be modified smallpox.

FOUR TOWNS in western Nebraska, on the line of the Northwestern road, are reported to be under quarantine on account of smallpox. One of these—Valentine—has been so for some time, but only within the last few days has the quarantine been extended to the mails. Near Scott's Bluffs work on a large irrigation ditch has been suspended on account of the outbreak of variola in a surveying camp, which now has several cases. Here, as in other places, the diagnosis of smallpox is questioned by some physicians, and efforts were made to have the affection designated "Cuban itch" and to raise the quarantine. Readers of THE JOURNAL will remember that only about a year ago a similar outbreak of variola was reported in Topeka, Kas., which was diagnosed "Cuban itch." Through laxity of the authorities, and against the advice of many of the city's physicians, official quarantine was instituted only after the disease had spread extensively.

NEW YORK.

THE HEALTH OFFICER of Rome reports 8 deaths and 25 births during October. Of measles, 25 cases; of typhoid fever, 3 cases, and of diphtheria one case were reported.

THE SYRACUSE ACADEMY OF MEDICINE plans to have a staff of twelve physicians appointed for the hospital at the county house. Six of the staff are to be members of the Academy of Medicine, three from other towns in the county and three are to be homeopaths.

Buffalo.

DRS. ROSWELL PARK and Charles Cary are guests of Mr.

Frank Goodyeare on a trip through the South and Mexico in his private car.

NEW FREE public bath-house No. 2 was recently opened. It is situated on the east side of the city in a region densely populated by foreigners.

THE EMERGENCY HOSPITAL now in course of construction is to be 142 ft. by 60 ft. and three stories high. There will be three operating rooms for minor surgery or preliminary examinations. On the third floor is the operating amphitheater. Another feature of the building is a roof-garden, reached by an elevator to be used as a solarium by the patients. The cost of the structure is to be $60,000.

THE DEPARTMENT OF HEALTH has recently made a series of tests as to the percentage of good air in the rooms of the public schools, some of which have been recently constructed and are supposed to have good ventilating systems. The result shows the air inspired by the pupils to be deficient in purity and the health commissioner has called attention to the fact that in the future the plans for ventilation-construction in all public buildings should be submitted to his department for examination and approval. Because of the defects in ventilation in the newly-constructed school No. 16, the city refuses to pay, and a lawsuit is imminent, the contractors, in defense, claiming that their agreement does not specify whether the air be good or bad.

New York City.

THE WILL of R. G. Dun bequeaths $5000 each to the Presbyterian Hospital, St. Luke's Hospital, Mount Sinai Hospital and New York Institution for the Instruction of the Deaf and Dumb.

WHILE Dr. Otto Schultze, pathologist at Cornell University Medical College, was holding an autopsy before the class, on a woman who was supposed to have died of typhoid fever, he suddenly discovered that she had been the victim of a criminal abortion. The class was dismissed and the coroner summoned. Investigation showed that the woman had at first been a ward helper in Bellevue Hospital, and had subsequently been admitted as a patient with a diagnosis of malaria. From October 27 till November 22 she was treated in the hospital for typhoid fever, and the house physician said that up to the time of her death he did not know that any operation had been performed on her.

A GENTLEMANLY appearing person, describing himself as Dr. William A. Ferguson, and as a graduate of Dublin University, has been arrested on the charge of defrauding physicians. His arrest was brought about by Drs. William M. Polk and George W. Jarman, upon whom he had called, soliciting financial aid, alleging that he was in distress because of the Galveston flood. The police say he bears a striking resemblance to Franklin J. Moses, at one time governor of South Carolina, but since known in many states as a fraud and confidence man. Dr. A. R. Shands, of Washington, D. C., is positive that this man is the one wanted in his city on a similar charge, and he is held pending extradition proceedings.

SO MUCH INDIGNATION has been aroused over the long delay in taking possession of the new building for Gouverneur Hospital that the grand jury has taken up the matter. The foreman, Mr. John P. Faure, recently commissioner of charities, took an active interest in the investigation, and asked some pointed questions of the commissioners appearing before them. The delay is apparently the result of obstinacy on the part of one of the commissioners, coupled with a lack of supervision of the work done by the contractors. When it is recalled that the building has cost $200,000, and that $89,000 have been appropriated for the fittings and supplies, there should not be much difficulty in getting the building ready for occupancy.

SAMPLES OF CITY WATER have been taken from various places and submitted to the chemists of the board of health for analysis. A preliminary report on these has been made public, which sets forth that there is no evidence of contamination of the water with pathogenic germs. It takes twenty-four hours for the water to travel from Croton Lake to the aqueduct station in West 135th street, and during this time nearly one-fourth of the suspended organic matter subsides. The bad color and taste of the water at present are owing to the abnormally low level of the water in the storage reservoirs. The grand jury summoned experts before it, who were all heartily in favor of the installation of a system for filtering all the city water.

A DEATH from Christian Science treatment has occurred in an exclusive and fashionable section of Brooklyn. The healers are Mrs. Parmelia J. Leonard, and her son, F. H. Leonard, who live in a beautiful home at 160 Montague street. Mr. A. C. Hubbell, at the request of his wife, who was suffering from appendicitis, called in Mr. F. H. Leonard, and after waiting in dreadful suspense for five hours for word or sound from the sick-room, he entered, to find his wife tossing about the bed in agony while the "healer" lay in an easy chair half asleep. For this valuable service he rendered a bill for $3, and this bill will be used as evidence against Leonard, who now denies that he attended Mrs. Hubbell. Mr. Hubbell has instructed his lawyers to proceed against the Leonards, criminally, if possible, as he intends to hold them responsible for his wife's death.

THE ANNUAL REPORT of the Children's Aid Society shows that 38,232 children have been aided in the past year. The daily average attendance at the industrial schools has been 7063, and it is interesting to note that the society has hit upon the practical plan of bringing crippled children in an omnibus to and from three of these schools. Homeless children to the number of 5163 have sought and found shelter during the year, and 1594 persons have been sent away from the city. The Emigration Department has placed 22,121 children in families, and points with pride to the fact that, so far as known, only 60 have been arrested or sent to reform schools. Nearly 14,000 sick infants and their mothers were given outings at the seashore during the past summer. Schools have been established for incorrigible truants, and by the employment of expert teachers who are able to interest these children in manual training, many of these boys, have been broken of the habit of vagrancy, and have been able to secure regular employment. The total expenditures for the year were $382,536.78.

IN THE LAST few days the board of health has had on its hands an outbreak of smallpox, which is said to be larger than any since 1892. Up to the present, 37 cases have been reported, and as a colored man wandered through the city during the whole time he was suffering with smallpox, without consulting a physician or without the nature of his malady having been detected, it is expected that a number of other cases will necessarily develop in distant parts of the city. Nearly all of the cases have developed among colored people in a densely populated district in West 68th and 69th streets. The first cases were apparently in the kindergarten of the Riverside Association, a school having a swimming-bath attached. This school and a public school in the same neighborhood are most in danger of becoming infected. The health department is carrying out its usual practice, i. e., children from the infected houses are not allowed to go to school, and these houses are visited daily by one of the department physicians for several weeks, while the vaccinators are busily at work vaccinating all within a distance of nine blocks in all directions. On December 4 the isolation hospital on North Brother Island had 40 cases of smallpox; one new case had been reported from the "All Nations Block" on West 69th street, and two deaths occurred.

NEW JERSEY.

A RESOLUTION has been adopted in Camden that policemen of that city who find a case of contagious disease in which no physician is in attendance shall notify the board of health.

THE PERTH-AMBOY HOSPITAL plans have been accepted, and work will be commenced very soon. The building will cost $15,000, of which $7000 is already available for immediate use.

THE CAMDEN COUNTY INSANE ASYLUM, Blackwood, has been remodeled and enlarged. The total amount earned during the year by the patients was $1856, thus reducing the expense per week to $2.27 per capita.

DOCTOR against doctor and regular against homeopath expresses the situation in the mayoralty contest in Plainfield. Both the republican and democratic candidates are physicians, but of different schools.

BURLINGTON proposes to open a memorial hospital commemorative of the late Dr. Franklin Gauntt, who for half a century did such faithful work in that town. The scheme is to buy by popular subscription the Gauntt house and remodel and equip it as a hospital.

THE STATE HOSPITAL FOR THE INSANE, near Trenton, has treated 1435 patients during the last year. There are now 1117 patients at the hospital, 84 have been discharged as recovered, 30 as improved, and 8 as unimproved, while 104 have died and 91 have been removed to other institutions. The chief causes for the insanity were general ill-health in 29 cases and alcoholism in 24.

A COMMITTEE has been appointed by the Middlesex County Medical Society to investigate the deficiencies in the state

lunacy laws, with the object of securing such amendments as may be necessary to preclude the possibility of sane people being committed to the state insane hospitals.

OHIO.

THE LATE Dr. David P. Chamberlin, Toledo, left an estate appraised at $8659.19.

ALL OSTEOPATHS in the state have been notified to present themselves for examination at Columbus, December 10.

OF THE 104 deaths which occurred in Cleveland during the week ended November 24, 4 were due to diphtheria. There were 59 new cases of diphtheria, 22 of smallpox and 25 of scarlet fever reported for the week.

SUPERINTENDENT OF HEALTH, Dr. William D. Deuschle, has asked the law department to take action against Dr. Byron E. Baker, Milford Center, who is charged with taking a scarlet-fever patient out of quarantine in violation of the orders of the superintendent.

SIX PHYSICIANS in Cleveland vaccinated 412 persons at the workhouse in three hours. A case of smallpox developed in the workhouse, and immediate measures—fumigation, etc.—were taken by the health authorities for the protection of the other inmates.

DURING October there were 486 deaths and 550 births in Cincinnati. The death-rate per mille was 9.71 per annum. There were 325 cases of infectious diseases reported, of which 93 were consumption, with 7 deaths, and 49 of diphtheria, with 36 deaths. No cases of smallpox were reported.

PENNSYLVANIA.

AT A MEETING of the Parnassus, New Kensington and Arnold Physicians' Association, New Kensington, November 19, it was decided that each member should be compelled to withdraw his professional card from the local papers.

STATE QUARANTINE OFFICER Dr. Henry D. Heller, Philadelphia, and Dr. J. L. Forwood, Chester, have paid a visit to the Governor at Harrisburg relative to securing a tugboat, and better barracks for the quarantine station.

OWING to the development of a case of scarlet fever at the Pennsylvania Military College at Chester, the institution has been ordered closed for several weeks. The patient has been isolated and there is little fear of the further spread of the disease.

STATE INSPECTOR IRONS made an examination of a herd of very fine cattle on the Reedhurst farm near Erie and ascertained that, although the milk of these animals had been sold at a higher price on account of the excellence of the breed of cattle, 95 of the animals were suffering from tuberculosis and he ordered them to be destroyed. The sum of $1300 was paid by the state for the animals.

Philadelphia.

THE NEW HOSPITAL attached to the Home for Aged and Infirm Colored Persons will be opened in about a month. A feature of the new building will be a diet kitchen.

PRESIDENT H. B. HUEY, of the Board of Education, has submitted a report of the school medical inspectors to the subcommittee of City Council, in which it is stated that during eight months there were 5876 cases of illness, of which 3446 were contagious. He has asked for an annual appropriation of $25,000 to pay for the service of the school inspectors.

TWO DISINFECTING BARGES, which have been reconstructed from schooners by builders of this city, are now on their way to Cuba. One will be placed at Matanzas and the other at Cienfuegos. They are in tow of the American steamer *Orion*. One is 122 feet long and 30.6 broad, and the other is 129.9 feet long and 31.2 feet broad. A fumigating barge is now being built here which will be placed at Ship Island, Miss.

AT THE last meeting of the committee on medical inspection of the Public Education Association a resolution was adopted recommending that the sum of $500 be allowed each medical inspector for eight months' work. A similar resolution was recently adopted by the County Medical Society, and it will be considered by the College of Physicians during the next few days.

THE "COURSE IN HYPNOTISM" advertised by the American College of Sciences, which has its offices at 416-420 Walnut street, has been condemned by the members of the faculty of many different colleges, including representatives of the University of Pennsylvania, Philadelphia Polyclinic, Princeton, Yale, University of Michigan, Dartmouth, Harvard, Columbia, and the University of California. The names of representatives of these institutions had been used by this "college" as giving an implied endorsement to the course. Some of the men connected with the universities above cited are said to have consulted lawyers in regard to restraining the "College of Sciences" from using articles previously written by them and published in the work entitled "Hypnotism and Hypnotic Suggestion." The name of the concern is not in the city directory.

SOUTH DAKOTA.

THE NEW HOSPITAL, which is being erected in Sioux Falls, at a cost of $10,000, will be ready to receive patients some time this month.

SOUTH DAKOTA is reported to have had a death-rate for last year of only 8.22 per 1000. Consumption caused only 0.63 deaths per 1000.

THE DEATH-RATE among the Sisseton and Wahpeton Indians in South Dakota is alarming. It is reported that 56 out of 1900 Indians died last year, an annual mortality of 29.5 per 1000. Of the deaths 90 per cent. are said to be from tuberculosis.

THE SIOUX FALLS HOSPITAL has transferred its patients into the commodious new hospital building erected for it by R. F. Brown and Dr. Stephen Olney. At the meeting for re-organization of the Board of Directors, Dr. Arne Zetlitz, who has been physician-in-charge since the hospital was opened, in 1894, resigned, and Dr. Stephen Olney was elected to the po-

SMALLPOX IN SOUTH DAKOTA.

On election day, a case of smallpox was found in Lead, S. D., the patient having recently come from Valentine, Neb. The patient and his wife were at once isolated, as were also five other persons who had visited him the preceding night. The city council promptly authorized the city health officer to erect and equip a pest-house outside the city, where the patient and two of those exposed, who have since been attacked by the disease, are being cared for. As compared with Lead's action, which has doubtless resulted in confining her cases to the few mentioned, reference may be made to the lack of precautions in the neighboring city of Deadwood, three miles distant. The latter now has ten cases—five new ones during the past week—with practically no quarantine restrictions, and the city health officer has resigned, on account of failure of the county to authorize him to carry out necessary health measures. Besides Deadwood's lay press daily denies the existence of smallpox in Lead and surrounding towns, calling it an "eruptive fever," "Cuban itch," etc., but remaining silent concerning her own cases, which have exposed so many as to necessitate closing certain of the Deadwood schools, as a precautionary measure. A stone-quarry southwest of Lead, but operated by a Deadwood company, has long been in quarantine, and while the number of cases there has not been given out, two deaths have been reported. It is said that a Deadwood family recently visited near the quarry, remaining over night, and on returning to Deadwood, so stated to a physician, who advised them to say nothing about it, but the matter became public and their children were excluded from the school, and later the school closed. It is not known that they introduced the disease into Deadwood. Terry, another mining town near Lead, furnished a case the past week, the patient also recently from Nebraska. He, too has been isolated and every precaution is being taken to prevent a spread of the disease in Terry.—Later advices states that only 3 cases are at the quarry, and that Deadwood has 19.

TENNESSEE.

DR. JAMES C. BUTLER, Mountain City, who was seriously injured a short time ago in a runaway accident, has recovered and resumed practice.

THE CITY COUNCIL of Nashville has taken up and passed the bill which it rejected a few weeks ago, and which prohibits sale of cocain except on the prescription of a physician.

NASHVILLE'S MORTALITY for October was 149, 83 white and 66 colored. The births for the month were 148, 108 white and 40 colored, 72 boys and 76 girls. Of contagious diseases 132 cases were reported with 30 deaths.

THE HEALTH OFFICER of Columbia has been ordered to vaccinate all persons not satisfactorily vaccinated within a year, to isolate all cases of smallpox, or varioloid, provide immune nurses for same and maintain strict quarantine.

TEXAS.

DR. GEORGE LARENDON, Houston, has been re-appointed county physician of Harris County.

DR. THOMAS H. STALLCUP, Jefferson, was attacked by unknown persons while in his stable and seriously injured.

GOVERNOR SAYERS will, it is said, favor the establishment of a state board of health and of a state home for indigent consumptives.

VIRGINIA.

DR. THOMAS MILLER, Fincastle, was thrown from his buggy, November 21, and severely cut and bruised.

THE ADDITION to the Central State Hospital in Dinwiddie county is now ready for occupancy. It is 185 feet long, contains 20 cells and several dormitories and has cost about $22,000.

DR. JOHN F. WINN, professor of obstetrics at the University College of Medicine, Richmond, has appointed Drs. Charles P. White and Chewing, resident physicians at the Virginia Hospital, as his assistants.

THE MEDICAL SOCIETY OF VIRGINIA has recommended to the governor the names of physicians to compose the State Board of Health. Commissions will accordingly be issued to Drs. Paulus A. Irving and Landon B. Edwards, Richmond; Dr. Rawley W. Martin, Lynchburg; Dr. Lewis E. Harvie, Danville; Dr. Vernon G. Culpeper, Portsmouth; Dr. Joan T. Graham, Wytheville, and Dr. John H. Neff, Harrisonburg. The new board will serve for four years, beginning Jan. 1, 1901.

WISCONSIN.

DR. PETER H. JOBSE has returned from Cape Nome to his practice in Milwaukee.

DR. FRED. W. A. BROWN, Oshkosh, has been elected county physician of Winnebago county.

OSHKOSH SCHOOLS have been closed by the authorities on account of the prevalence of diphtheria and typhoid fever.

AN ADDITION to St. Luke's Hospital, Racine, is to be built, to cost $7500, and of this amount a citizen of Racine has agreed to furnish $1500.

SMALLPOX has appeared in La Crosse and many have been exposed. The State Board of Health is taking all precautions to prevent the spread of the disease.

COUNTY PHYSICIANS were elected by the Racine County board as follows: Western district, Dr. George E. Newell, Burlington; eastern district, Dr. Julian R. Sime, Racine, and middle district, Dr. William C. Hanson, North Cape.

UNDER THE NEW LAW health commissioners are compelled to certify every birth and death recorded in their respective offices and for each certification they receive 15 cents. In Milwaukee last year, the fees to Health Commissioner Schulz from this source amounted to $1834.50.

GENERAL.

POSTPONEMENT OF THE THIRD PAN-AMERICAN MEDICAL CONGRESS.

The Committee of the Third Pan-American Medical Congress met in special session on the 4th inst., at the Marine-Hospital Bureau in Washington, and, after consultation with Surgeon-General Wyman, decided, on account of the present health conditions in Havana, to postpone the congress until February 5, next. Dr. Juan Santos Fernandez, of Havana, president of the congress, advised the postponement by cable. This delay, it is hoped, will increase the attendance and extend the work of the congress. Signed: Drs. A. Van der Veer, C. A. L. Reed, H. L. E. Johnson, Ramon Guitéras.

MAJOR JOHN VAN R. HOFF, U.S.A., chief surgeon of the Department of the Lakes, was relieved from duty in Chicago, November 30, and assigned to Washington.

ASST.-SURGEON L. L. LUMSDEN, at Angel's Island, Cal., reports to the Marine-Hospital Service that bad health conditions exist among the Chinese workers in the Alaska salmon canning industry. Last spring nearly 3000 Chinese, recruited from the poorest element, were shipped to the Alaskan country, and several deaths occurred, the nature of which is unknown, as no physician accompanied them. They are often worked eighteen hours a day, and live in barracks in utter disregard of cleanliness and sanitation.

HAVANA UNDER THE AMERICAN REGIME.

The deaths in Havana for October, 1900, numbered 507, and for the same month of last year, 497. These are the lowest figures for that month during the decade of 1891-1900. In 1896 the October deaths were 1212; in 1897, 2026, and in 1898, 2491. Major Gorgas, chief sanitary officer, in his report for November, shows that 444 deaths occurred in the city from all causes, this being the lowest number for the same month during the last ten years. There were under treatment, on December 3, 37 yellow fever patients, 4 of whom are Americans.

MANILA UNDER AMERICAN RULE.

Advices from Manila state that never before has the city been so free from dangerous and epidemic diseases. But one case of plague had been reported in several weeks, and only one case of smallpox appeared in almost four months. It is now without doubt the cleanest and healthiest city in the far East, and more than ever deserves the title of "Pearl of the Orient." The credit for this sanitary condition is due to the president of the board of health, Surgeon Guy L. Edie, and his corps of assistants, Drs. Lynch, Calvert, Gilchrist and Le Hardy. Visitors to Manila are agreeably surprised at the cleanliness of what was once a filthy and unspeakably unhealthy place.

CANADA.

MONTREAL'S HYGIENIC COMMITTEE has published a statement of the expenditure in connection with the last outbreak of smallpox in that city. There were twenty-three cases of smallpox in all and the total cost amounted to $11,675.59.

THE ONTARIO BOARD OF HEALTH has forwarded the plans for a new contagious disease hospital to be erected at the Capital. Along with them went up an order from the lieutenant-governor authorizing the city council of Ottawa to build the institution and to expropriate any land necessary for that purpose.

NEGOTIATIONS are still in progress with regard to the amalgamation of Toronto and Trinity Universities as well as the two medical colleges. The premier of the province has recently called two meetings of representatives of the respective faculties to try to come to some definite arrangement, but so far nothing of a tangible nature has resulted.

SMALLPOX has again broken out at Nanaimo, B.C., and so far thirteen cases have been reported. The trains and boats are being inspected and all persons leaving have to be vaccinated. Forty-nine persons are quarantined on Gabriola Island, where there is one case. During the past 18 months, smallpox appeared in the Province of Ontario at twenty-five distinct points, but in each and every case it was met promptly and efficiently and thoroughly stamped out.

TORONTO ORTHOPEDIC HOSPITAL.

The medical report shows that the number of patients remaining from the previous year was 16; number admitted during the year ending Sept. 30, 205; total 221. The number discharged during the year was 198; number of deaths, 1; number remaining, 22. Collective days' stay at the hospital was 5582 and the average day's stay per patient was 25.25. Of the patients themselves, 128 were males and 93 females, and of these 114 were under and 107 over 14 years of age. The number of surgical operations performed during the year was 194. In the out-door department, there were 51 consultations. The hospital register showed that of all of the 221 patients, 51 resided in the city of Toronto, and the remainder came from 93 different towns, cities and villages of the United States and Canada.

THE HEALTH OF MONTREAL.

Scarlet fever, this time of a severe type, has again broken out in the City of Montreal, and to such an alarming extent that the Hygienic Committee is feeling somewhat uneasy. The scarlet fever wing of the Civic Hospital is filled with these patients and no more can be accommodated. There are forty-two inmates already. The cause is ascribed to the lax manner of reporting the cases and also to the want of care in patients going out too soon after an attack. The Hygienic Committee will now give special attention to the reporting of cases of infectious diseases. Trouble also has arisen with the inspection of the schools. The Catholic School Board will not permit the health officer to inspect these schools, nor will permission be granted to vaccinate unvaccinated pupils. On the other hand the Protestant school boards have sent special requests for inspection. Dr. Laberge has decided to make a test case in the courts of the action of the Catholic school boards to see whether or not they can prevent the officers of the health department entering, inspecting and vaccinating such pupils as require this operation. The health officer is determined that the by-law relating to infectious diseases shall be enforced.

PROGRESS IN TORONTO HEALTH INSPECTION.

An evidence of the care exercised in the protection of the health of the citizens of Toronto is seen in the statistics from the plumbing department under the control of the health department. The year of this department ends on October 31. During the past year there have been 7507 applications for plumbing inspection and for the previous year, 7566. The inspections made number 10,641 and 10,343 for the year before. There is an apparent increase in desire on the part of the public to have house-plumbing and house-drainage inspected. These figures appear more interesting when compared with the work done in 1897. In that year 4791 inspections were made, not quite half the number of this year. The department of public health states that the character of the plumbing in the city is greatly improving; and the people are becoming alive to

the importance of protecting themselves from disease generated through inefficient house-drainage and house-plumbing.

FOREIGN.

THE late Dr. Apostoli, of Paris, bequeathed $4000 to the Academie de Médecine to found a prize for works on electrotherapeutics.

DURING the last seven years previous to his death, Professor Albert, of Vienna, published five volumes of translations from Bohemian poetry, in a historical series from the earliest to the latest times, with critical commentaries.

PROF. O. LASSAR, of Berlin, has started an international subscription for the purpose of presenting a marble portrait bust to the famous Norwegian leprologist, Prof. Armauer Hansen, of Bergen, on the occasion of his 60th birthday, July 29, next year.

ACCORDING to the *Derm. Ztg.*, the leper asylum in Iceland has proved a great blessing to the community during its two years of existence. The inmates average sixty-one. One of the patient, a boy, has been cured—at least it is so stated.

THE FRENCH authorities have offered to pay the Norwegian missionaries in Madagascar 40 francs for each leper received in the mission leper-asylum, and also to enlarge and improve the asylum.

THE SAXON government has decreed that physicians must officially report cases of tuberculosis in the cachectic stage if the patient changes his residence or becomes dangerous for his environment, either in a private residence, hotel or boarding house.

SPAIN has now rendered the notification of infectious diseases compulsory for the physician. He has to report all cases that have fallen under his observation to the medical inspector of the district, and the latter informs the local authorities, who then take the necessary steps to prevent the spread of the disease.

SINCE the Moscow prize was awarded to Ramon y Cajal by the International Medical Congress Spain has been heaping honors on her distinguished son, appropriating funds to enlarge his laboratory and conferring a pension on him. The latest is the decoration with the grand cross of the Order of Isabel la Catolica.

AMONG the deaths abroad we note that of Dr. S. Kristeller, whose name is familiar from his method of external expression of the fetus. The death of Dr. W. Basler occurred in Bavaria. His articles on "Cereals Among the Ancients," "Massage in Antiquity," etc., published in *Janus*, have attracted much attention. Although only 62 years of age, he had resigned his practice to his son in order to devote himself exclusively to historical medical research.

THE PARIS authorities have had placards posted warning the people that smallpox is assuming an epidemic form and urging vaccination and revaccination. Since the exposition has been at its height there have been 100 deaths from smallpox, while during the five previous months there were only 15, and only 4 during the entire year of 1899. There were 14 deaths during the week ending November 3, according to the *Sem. Méd.*

THE ITALIAN railroads have given orders to have all their occupied buildings protected by wire mosquito-netting, and the shelters for the workmen on the marshes are to be similarly protected. The Society for the Study of Malaria is to petition parliament for funds to generalize the application of prophylactic measures among the poor, as the tests this summer have been considered conclusive in regard to the danger of infection from mosquitoes.

A FRENCH female doctor, Mlle. Krykows, of Neuilly, has won a suit against a patient who claimed that her care of a phlegmon had not been correct and hence refused to pay her bill. Brouardel testified as the expert in the case, that the operation and care had been *secundum artem* and had been successful. Mlle. Krykows at once added to her original bill a claim for damages to her professional reputation and the court decided in her favor, allowing her the original bill and ten dollars damages, as reported in the *Jour. de Méd. de Paris* of November 18.

THE RECENT German Congress of Physicians and Naturalists at Aix-la-Chapelle paid great honor to Virchow, and it was recalled that when the congress met at the same place fifty-three years ago, he read a paper on "Parenchymatous Inflammation." Professor Harless of Bonn presided and listened to the essay of the young Berlin privat-docent with consternation, finally interrupting him and putting the question to vote whether the assembly wished to hear any more of the paper as it was evident that the speaker knew nothing of his subject. The vote however was in favor of Virchow and he was allowed to continue.

PROFESSOR VAN ERMENGEM has returned from Glasgow, where he was sent by the Belgian government to study the plague. He reports that the effects of antiplague serum which he observed were extremely encouraging. In two cases at least the curative influence was marked. The fact that its efficacy was not more apparent was due to the tentative and inadequate manner in which it was administered by some of the physicians. He proclaims his convictions that the usual prophylactic measures for infectious diseases, supplemented by serotherapy, executed by an enlightened authority thoroughly prepared, armed with sufficient powers and with trained personnel, will effectively control and stamp out an outbreak of the plague, even in apparently unfavorable surroundings.

SYPHILIS IN ASIA MINOR.

Syphilis has increased to such an extent in some portions of Asia Minor that according to official reports 80 per cent. of the population are its victims, and it has seriously affected the ability to furnish the military drafts demanded by the Turkish government. Three-fifths of the young men are found unfit for service from this cause. The provinces in which syphilis is so prevalent are given as Castamoni, Bartin, Erzingian, Angora, Ismidt (Nicomedia) and Adana, the last named being only very recently added to the list. The introduction of the disease is credited to the Russian occupation of Constantinople in 1830, when a force of 30,000 men was landed on the Asiatic side of the Bosphorus. It spreads rapidly through the Moslem population, owing to their objections to medical examinations.

THE DRINKING WATER OF PARIS.

The drinking water of Paris has been under suspicion and it appears justly, for at a recent meeting of the Council of Hygiene it was developed that the Charonne recervoir has been constantly supplying unwholesome water for the past four months. Water taken from one of the filthiest portions of the Seine near Ivry is passed through gravel filters, which merely strain, and mixed at the Menilmontant reservoir with the wholesome waters of the Dhuys. When the typhoid fever reached its maximum recently the engineers shut off the Ivry supply and the mortality rapidly diminished from 18 deaths per week to about 7. The revelations have caused considerable stir in the Council of Hygiene and steps are being taken to improve matters in the future.

LONDON LETTER.

OPENING OF LABORATORIES AT KING'S COLLEGE BY LORD LISTER.

New laboratories have been opened at King's College, London, which form part of a comprehensive scheme of extension and improvement in the accommodation of the college and place its facilities for practical teaching in a foremost position in this country. The biological, architectural, anatomical, and mechanical departments have all considerably benefited by the new works. In the presence of a distinguished audience, including the lord mayor, Sir Joseph Fayrer, Prof. Clifford Allbutt, Sir W. Broadbent and Baron Hayashi (the Japanese minister), Lord Lister, formally opened the new laboratories. He said the occasion marked an event of great importance in the higher education of the metropolis. Lectures were not now thought to be sufficient for the student; practical instruction was imperative. The laboratories which King's College now provided for the practical teaching of physiology were second to none in the country. The dissecting-room had been almost doubled; a fine anatomical museum had been provided. The bacteriological laboratory had the very important addition made to it of a research room. The means of checking the Glasgow plague and removing the scare from London were entirely due to the kind of researches which were carried out in bacteriological laboratories.

THE SCANDAL AT THE NATIONAL HOSPITAL FOR THE PARALYZED AND EPILEPTICS.

The unseemly controversy on this subject still continues to be hotly carried on in the columns of the *Times*. For some time the medical staff have complained of grave defects in administration—insufficient food for the patients and scarcity of nurses. They requested the board to allot them two seats on their body, pointing out that such representation would be conducive to the interests of the hospital and a preventive of the evils mentioned. This very modest request the board refused. As a result the staff have appealed to the public through the columns of the *Times*, and asked for inquiry.

To this the board replied by instituting an inquiry themselves, and by means of a committee of their own members passing judgment on themselves. Obviously this was not regarded as satisfactory, and they now find themselves compelled to consent to an inquiry by an independent body. When the reputation of the eminent men who form the staff is considered—Gowers, Jackson, Ferrier, Horsley, Buzzard, Bastian and Semon—probably the most brilliant staff that ever adorned a hospital, the conclusion is inevitable that the evils must be grave which have driven them to the verge of resignation. The secretary-director of the hospital, who seems to be the main cause of the trouble, has had the discourtesy and vulgarity to use as an argument that the staff did not contribute largely in money to the support of the hospital. A letter has just been published in the *Times* supporting the very reasonable demand of the staff, signed by the senior physician and surgeon of every hospital in London.

MR. TREVES' BOOK ON THE WAR.

The distinguished surgeon, Mr. Frederick Treves, consultant to the army in South Africa, has just brought out a highly successful book, entitled "The Tale of a Field Hospital." Mr. Treves has always been known as a surgeon of distinct literary power, and this book only confirms his reputation. With graphic pen he brings home to the reader the horrors of war and the patient, pathetic heroism of the British soldier. For example, an orderly was bringing some water to a wounded man lying on the ground. He was shot through the abdomen and could hardly speak, owing to the dryness of his mouth, but he said: "Take it to my pal first; he is worse hit than me." This generous lad died next day, but his friend recovered. An instance of pluck that deserves notice was that of a soldier who was brought in from Spion Kop. He had been lying on the hill all night and had not had his clothes off for six days. He was struck in the face by a fragment of shell, that carried away his right eye and upper jaw, leaving a hideous cavity at the bottom of which his tongue was exposed. He was unable to speak, but as soon as he was settled in a tent he made signs that he wanted to write. After going through the form of wetting his pencil at what once had been his mouth, he simply wrote: "Did we win?" After a battle Mr. Treves describes the return of "the dreary ambulances, each one with a load of suffering, misery and death." "There were the very khaki-clad soldiers who had not so long ago left London spick and span, amid a hurricane of cheers, and now they were coming back to the camp silent and listless, and scarcely recognizable as men. They were burnt a brown-red by the sun; their faces were covered with dust and sweat, and in many cases blistered with heat; their hands were begrimed; some were without tunics, and their shirts were stiff with blood. All seemed dazed, weary and depressed. In this dismal scene there was one feature which can never be forgotten—the heroism with which the soldier met his ill-luck. Some were disposed to curse and a few to be jocular, but there was no whining or fear, and they were grateful for what was done for them." Of the nurses, he says: "These ill-housed women seemed oblivious to fatigue and hunger and to any need of sleep, and brought to the wounded and the dying that comfort men are unable to bestow."

THE INCREASE OF POPULATION OF THE UNITED KINGDOM.

The return issued by the registrar-general, of the births, marriages and deaths in the United Kingdgom, is interesting. The population in the middle of the present year amounted to more than 40,000,000, of which 32,000,000 inhabited England and Wales, Scotland and Ireland having each a population of 4,000,000. In spite of the large amount of emigration, there is a steady increase of population. In the three months ending last September, 290,000 births and 166,000 deaths were registered. The annual birth-rate is 28 per 1000, and the death-rate 16. Emigration carries off a large part of the increase. During the past quarter 60,000 people left our shores. Of these, 38,000 were English, 12,000 were Irish and 10,000 Scotch. The marriage-rate for the quarter was 16 per 1000. The death-rate is much heavier among men than women—the proportion being 117 to 100. The mortality of infants under 1 year is very heavy, 188 per 1000 born. No less than 5000 persons died from different forms of violence.

MOSQUITO THEORY OF MALARIA.

The experiments of Drs. Sambon and Low, of the London School of Tropical Medicine, have been completely successful and they have returned home in good health. It may be remembered that in order to prove the mosquito theory of malaria they volunteered to live for some months in a specially constructed mosquito-proof hut in the worst part of the fever-stricken Campagna. The requisite arrangements were carried out by the British Colonial Office. At first they were laughed at by the sceptical peasantry, who said that the "Inglesi" were healthy because they had no work to do. The doctors then went out and toiled as day laborers, getting soaked with swamp water and broiled in the sun. Then the conjecture was: "It is because the ground is not broken up about the hut." They dug up the reeking soil. Finally it was said: "You do not drink ordinary water." At considerable risk of other maladies they did so. But when the mission returned a crowd surrounded them and begged to be protected or cured; incredulity was at an end. As a result of the success of the expedition Professor Grassi has undertaken to banish malaria from Italy. He proposes, with the assistance of the government, to isolate all fever patients and to protect all dwellings in malarial districts with mosquito-proof netting. He will have a population of 2,500,000 and a district of 20,000 square miles to deal with, so that his task is no light one.

Correspondence.

Grooved Director for Vaginal Hysterectomy.

TROY, N. Y., Nov. 24, 1900.

To the Editor: It is with pleasure that I acknowledge priority for the director for vaginal hysterectomy in favor of Dr. Joseph Eastman on the statements in the letter to THE JOURNAL of November 24, p. 1359. It is only another illustration of the fact that similar ideas and needs often bring identical results. That my oversight of Dr. Eastman's previous publication is at least pardonable is shown by the fact that the "director" was exhibited at three medical meetings in large cities in the state of New York, and privately to several gynecologists of more than national reputation, and in no instance was a hint of previous knowledge given.

Having no desire for mere priority, I cheerfully give way to Dr. Eastman, whom I hold in high esteem for his personal worth and professional work. E. D. FERGUSON, M.D.

Correction.

BOSTON, MASS., Dec. 3, 1900.

To the Editor:—In the abstract department in your issue of December 1, on page 1432, you say that in delirium tremens I recommend "the gradual withdrawal of alcohol and nourishment." As I have earnestly insisted upon the great value of nutrition in this disease, the statement that I advise the "gradual withdrawal of nourishment"—presumably to the point of total abstinence—is startling, to say the least. Whether the error is typographical or a slip of the pen is not clear, but, doubtless, what you meant to say was that I prescribe nourishment, accompanied by the gradual withdrawal of alcohol. CHAS. J. DOUGLAS, M.D.

[The unfortunate omission of a comma after the word "alcohol" is the cause of the ambiguous reading to which our correspondent objects.—ED.]

Marriages.

LOUIS MEYER, M.D., to Miss Blanche Lowenstein, both of Baltimore, November 20.

CHARLES A. HUGHES, M.D., Washington, D. C., to Miss Helen Bishop, of Dover, Del., November 28.

CORNELIUS C. ABBOTT, M.D., to Miss May C. Deters, both of Cincinnati, Ohio, November 28.

F. R. YARBROUGH, M.D., Victoria, Ala., to Miss Clara Dexter, of Montgomery, Ala., November 19.

JAMES W. ALLEN, M.D., Enoree, S. C., to Miss Cecilia Menke, of Charleston, S. C., November 27.

J. CLINTON POWERS, M.D., Hampton, Ia., to Mrs. Emma Haas, of Minneapolis, Minn., November 21.

MONROE G. REYNOLDS, M.D., mayor of Aledo, Ill., to Miss Ella Graham, at Phillips, Wis., November 19.

HARVEY CLAY HEALD, M.D., Millard, Neb., to Miss Alberta Powell, of South Ottumwa, Ia., November 20.

CHARLES W. DOUGHTIE, M.D., Norfolk, Va., to Miss Florence Moore Willis, of Richmond, Va., November 21.

CHARLES NORTON, M.D., U. S. A., San Francisco, Cal., to Miss Bessie Spencer, Louisville, Ky., November 21.

ROBERT W. GIBBES, M.D., Columbia, S. C., to Miss Ethel Dole Andrews, of Kenosha, Wis., November 30, at Lombard, Ill.

Deaths and Obituaries.

RUFUS P. LINCOLN, M.D., Harvard, 1868, at his home in New York City, November 27, a few days after an operation for appendicitis, aged 59. He was an alumnus of Amherst College, class of 1862, and subsequently became well known as a lung and throat specialist in his residential city. He was a member of the AMERICAN MEDICAL ASSOCIATION, the American Laryngological Association, the American Climatological Association, and other scientific organizations.

ABNER SPICER WARNER, M.D., Dartmouth Medical College, 1848, who had practiced for more than half a century in Wethersfield, Conn., and had served as surgeon of the Sixteenth Connecticut Infantry in the Civil War, and later as physician to the Connecticut State Prison, at Wethersfield, November 22, aged 82.

EZRA H. BALLARD, M.D., University of Michigan, 1868, at Esterville, Iowa, November 9, aged 60. He was for eight years superintendent of schools, for five years treasurer of Emmet County, and had practiced in Estherville continuously since 1879.

GEORGE H. BRIGHT, M.D., Jefferson Medical College, 1858, an assistant-surgeon in the confederate service and a resident and practitioner of Richmond, Va., since 1867, November 20, at his home, after an illness of two months, aged 64.

CHRISTOPHER F. HARTER, M.D., Ohio Medical College, Cincinnati, 1858, suddenly from heart disease while making a professional call near his home, Akron,, Ind., November 20, aged 66.

ALBERT L. A. TOBOLDT, M.D., University of Pennsylvania, 1873, and for several years professor of materia medica in his alma mater, from uremia at Philadelphia, November 23, aged 48.

W. W. ANDERSON, M.D., a venerable and popular physician of Farmville, Va., November 23, as the result of injuries received in a runaway accident a few days before, aged 84.

JOHN S. HOLSTEIN, M.D., Tulane University, New Orleans, of Sicily Island, La., at the home of his sister in Florence, La., from pernicious malarial fever, November 19, aged 28.

JESSE W. BROCK, M.D., University of Maryland, 1855, who served through the Civil War as surgeon of the Sixty-sixth Ohio Volunteers, at Leavenworth, Kas., November 26.

JAMES J. JOHNSON, M.D., University of Louisville, 1885, of Bedford, Ind., at the home of his sister in Martinsville, Ind., from Bright's disease, November 18, aged 38.

GEORGE S. GOCHENOUR, M.D., Baltimore Medical College, 1889, of Moorefield, W. Va., by an accidental gunshot wound while hunting at Wardensville, November 22.

T. B. COX, M.D., Louisville Medical College, 1891, of Learned, Miss., by an accidental gunshot wound while hunting on the Sunflower river, November 17.

THEODORE J. YOUNG, M.D., University of Pennsylvania, 1868, at his home, Titusville, Pa., after an illness of nearly two years, November 22, aged 69.

GEORGE F. MAX KRIEGHK, M.D., University of Freiburg, Germany, 1877, at his home, Seattle, Wash., November 18, from dropsy, aged 47.

WILLIAM F. CARSON, M.D., Starling Medical College, Columbus, O., 1880, from apoplexy, at his home in Huntington, Ind. November 26, aged 47.

ALVIN B. PETERS, M.D., University of Nashville, 1889, of Moultree, Miss., from consumption, at Whiten Springs, Fla., November 13.

WILLIAM W. STEVENSON, M.D., University of Maryland, 1880, from meningitis, at St. Mary's Infirmary, Cairo, Ill., November 20, aged 48.

RANDOLPH N. HOWARD, M.D., Jefferson Medical College, 1879, suddenly from heart disease, November 22, at Carrington, N. D.

GEORGE S. MCCOMB, M.D., University of Pennsylvania, 1892, at Williamstown, Pa., November 17, after a short illness, aged 36.

WILLIAM J. WILSON, M.D., Geneva Medical College, 1841, at his home, West Chicago, Ill., November 20, aged 83.

J. H. STIMSON, M.D., after an illness of several months, at his home, in Croton, O., November 23, aged 74.

C. FRANK TWISS, M.D., New York University, at his home in Cleveland, Ohio, November 23, aged 48.

Association News.

The following is a list of new members for November:

ALABAMA.

Jones, T. W., Newtonville.

ARKANSAS.

Mason, S. A., Hattieville.
Vinsonhaler, Frank, Little Rock.

CALIFORNIA.

Taylor, T. F., Geyserville.

COLORADO.

Burke, Marion, Colorado Springs.
Libby, Geo. F., Colorado Springs.

CONNECTICUT.

Granniss, John H., Saybrook.
Spencer, Wm. D., Saybrook.

DISTRICT OF COLUMBIA.

Manning, Wm. P., Washington.

FLORIDA.

Miller, Jas. F., Inverness.
Airth, H. F., Live Oak.
Durkee, Jas. H., Jacksonville.
Colson, J. H., Waldo.
Wills, John C., Starke.
Berry, Ned C., Starke.
Leffingwell, John B., Braidentown.

GEORGIA.

Crozier, John R., Cedar Springs.
Holland, M. M., Statesboro.
Hammond, John H., LaFayette.
Oliver, Alfred S., Elberton.
Smith, W. Monroe, Atlanta.

HAWAIIAN ISLANDS.

Rhodes, E. C., Wahiawa, Oshu.
Sloggett, Henry C., Honolulu.
Garvin, C. L., Honolulu.
Goodhue, Edw. S., Koloa, Kauai.

IOWA.

Bender, H. W., Cedar Rapids.
Deemer, Geo. W., Muscatine.
Gahringer, J. M., Olds.
Harriman, O. B., Hampton.
Louder, Wm., Ledyard.
Nelson, Herbert H., Russell.
Port, F. W., Olin.

INDIAN TERRITORY.

Hensley, Jasper W., Choska.

INDIANA.

Reagan, Ross M., Monon.
Schilling, Carl, Ft. Wayne.

ILLINOIS.

Eiss, Daniel, Chicago.
Halstead, A. E., Chicago.
Thexton, Louis, Chicago.
Wheeler, A. M., Chicago.
Barnes, Lynn M., Decatur.
Collins, Clifford U., Peoria.
Hendrick, S. O., Henry.
Jones, Wm. S., Redmon.

KENTUCKY.

Baltzer, L. P., Louisville.
Clement, Wm. R., Princeton.
Gwyn, Matthew K., Louisville.
Thomas, George A., Bardwell.

LOUISIANA.

Ayo, J. J., Bowie.
Bryant, Henry, East Point.
Gulledge, Robert H., Horse Shoe.
Johnson, Jesse R., Buras.
Joseph, Horatio S., Melville.
Morgan, L. E., Baton Rouge.
Randolph, Robert L., Alexandria.
Vance, Norwood K., Baton Rouge.
Irwin, Emmette L., Clinton.
Gelzi, Paul, New Orleans.
Landfried, Chas. J., New Orleans.

MAINE.

Millett, Adelbert, Searsmont.
Northcott, Edwin M., Portland.
Tibbetts, Geo. B., Ovington.
Wilson, Chas. E., East Hiram.

MARYLAND.

Johnston, Samuel, Baltimore.
Bond, S. B., Baltimore.
Whitridge, Andrew H., Baltimore.
Nordmann, F. R., Baltimore.
Stevenson, H. Burton, Rider.
Potter, Chas. Henry, Baltimore.
Brown, Thomas R., Baltimore.
Mellus, Edward L., Baltimore.
Hawkins, Arthur, Mount Savage.
Shank, Abraham, Clear Spring.
Steeves, J. W., Hollands Island.
West, Levin, Brunswick.

MASSACHUSETTS.

Burrill, Benj. H., Boston.
Cabot, Hugh I., Boston.
Donoghue, Francis D., Boston.
Gallison, Henry H., Cambridge.
Chenery, Wm. E., Boston.
Councilman, W. F., Boston.
Durgin, Samuel H., Boston.
Muse, Joseph E., Boston.
Brooks, Lawton S., Springfield.
Gray, G. H., Lynn.
Brown, J. P., Taunton.
Curley, C. P., Provincetown.

MICHIGAN.

Cardwell, J. F., Durand.
Church, Starr King, Marshall.
Craig, John M., Battle Creek.
Spitzley, Wm. Albert, Ann Arbor.

MINNESOTA.

Hammes, E. W., Hampton.
McCord, Eugene W., St. Paul.
Hilbert, Pierre A., Melrose.
Rollins, Frederick H. St. Charles.

MISSOURI.

Rooney, Abby Fox, St. Louis.
Hiller, Frank B., Kahoka.
Gilmore, E. E., Adrian.
Redmon, S. H., Tipton.
Sulzbacher, B. L., Kansas City.
Twyman, G. T., Independence.
McNeill, Geo. E., Sedalia.
Campbell, O. Beverly, St. Joseph.

NEBRASKA.

Barr, E. E., Whitman.
Grant, Thomas, North Bend.

NEW HAMPSHIRE.

Johnson, Hiram L., Franconia.
Leet, Jas. A., Eastfield.
Prouty, Ira J., Keene
Varick, Wm. R., Concord.

NEVADA.
Thoma, G. H., Reno.

NEW JERSEY.
Geddes, Isabel M., Newark.

NEW YORK.
Barnes, Edwin, Pleasant Plains.
Brownell, A. H., Oneonta.
Cutler, Arthur W., Oneonta.
Comstock, Francis E., Wellsville.
Greene, Clark W., Binghampton.
Smith, Frederick A., Troy.
Blasucci, Ernest S. L., New York.
Brickner, Walter M., New York.
Goldwater, A. L., New York.
Quackenbos, John D., New York.
Rae, Robt., Portageville.
Renna, J. Julius, New York.
McIntyre, Wm. H., New York.
Arnold, Glover C., New York.
Deary, L. E., New York.
Leaser, A. Monae, New York.

OHIO.
Green, Howard L., Toledo.
Porter Wm. D., Cincinnati.

OKLAHOMA.
Settle, Jas. A., Yukon.

PENNSYLVANIA.
Brown, J. J., Bloomsburg.
Clementson, W. A., Braddock.
Fichtner, A. S., Johnstown.
Meisenhelder, Edmund W., York.
Rohrer, Geo. R., Lancaster.
Van Horne, C. E., Pittsburg.
West, Wm. H., Harrisburg.

RHODE ISLAND.
Wims, D. P., Providence.

SOUTH CAROLINA.
Massey, Jos. E., Rock Hill.

TENNESSEE.
Fox, C. P., Greenville.
Minor, Jas. L., Memphis.
McKinnie, P. H., Hickory Valley.

TEXAS.
Bell, Jas. H., San Antonio.
Blair, Henry A., San Antonio.
Duggan, Malone, Eagle Pass.
Hurt, John H., Jr., Big Springs.
Clark, Isaac E., Schulenburg.
Suttle, I. Newton, Corsicana.
Kimbrough, Walter G., Krum.
Logan, Jesse H., Goldthwaite.
Mason, J. McI., Floresville.
Maxwell, Corwin L., Forestburg.
Moss, Robt. E., San Antonio.
Norris, Frank O., Eagle Lake.
Phillips, Calvin B., Cuero.
Watters, Egbert A., Crowley.

VIRGINIA.
Barksdale, Geo. Edw., Richmond.
Chaffin, W. W., Pulaski.
Fairfax, H. Reginald, Roanoke.
Fadely, Geo. B., Falls Church.
Hazen, Chas. M., Bon Air.
Turman, A. E., Lassiter.
Winston, B. L., Hanover C. H.

VERMONT.
Colby, Bern. D., Bristol.
Dyer, O. G., Brandon.
Woodhull, J. B., N. Bennington.

WASHINGTON.
Spencer, James H. Tacoma.

WEST VIRGINIA.
Hannah, Alexander, Sardis.
Hoffman, O. H., Thomas.
Powell, R. H., Grafton.
Rupert, Leancy B., Nuttallburg.
Wilson, W. C. R., Mannington.
Whistler, Horace C., Smithfield.

WISCONSIN.
Gasser, Herman, Platteville.
Hebard, Chas., Mondovi.
Larsen, Lauritz A., Colfax.
McDermott, G. L., Neenah.
Stack, Stephen S., Milwaukee.
Willard, Lee M., Wausau.

Book Notices.

SYSTEM OF DISEASES OF THE EYE. By American, British, Dutch, French, German, and Spanish Authors. Edited by Wm. F. Norris, A.M., M.D., and Charles A. Oliver, A. M., M.D., of Philadelphia. Vol. iv: Motor Apparatus, Cornea, Lens, Refraction, Medical Ophthalmology. With 51 Full-page Plates and 211 Text Illustrations. 8vo, Cloth. Pp. 950. Price, $5.00. Philadelphia and London: J. B. Lippincott Co. 1899.

This volume, itself large, completes a work which, comparatively, is truly monumental—comparatively, because one would not think so much information could be gathered together concerning so small an organ. It is worthy of note, too, that such accumulated knowledge approaches very nearly the exact, for with his instruments of precision the deductions of the ophthalmologist are, to a certain extent, mathematical.

The American contributors to this volume are Drs. Norris, Oliver, Standish and De Schweinitz; among the foreign collaborateurs are Landolt of Paris, Nuel of Liége, Haab of Zurich, Swanzy, of Dublin, and Jonathan Hutchinson, of London. The plates representing microscopic appearances are certainly instructive, particularly those illustrating pathologic conditions of the cornea and lens.

The volume is devoted largely to the consideration of general disturbances and their local effect on the eye, for instance, the influence of diseases of the circulatory and nervous systems, of the secretory and excretory organs, of that of the infectious diseases, etc. Hence, the work is valuable to the general practitioner as well as to the specialist. The "System" stands facile princeps among works of its kind in the English language.

TEXT-BOOK OF THE MEDICAL TREATMENT OF DISEASES AND SYMPTOMS, for Use of Students and Practitioners of Medicine. By Nestor Tirard, M.D., F.R.C.P., Professor of Principles of Medicine, King's College, London. Adapted to the U. S. Pharmacopeia by E. Quin Thornton, M.D., of Jefferson Medical College, Philadelphia. Octavo. Pp. 624. Cloth. $4.00 net. Philadelphia and New York: Lea Brothers & Co.

This book is not an ordinary work on medicine, but occupies a field which has been largely neglected. Since symptoms, etiology, diagnosis, etc., must of necessity occupy a large proportion of any work, on medicine an adequate consideration of treatment is, except in works more than one volume, rarely attempted. The work under consideration aims to supply this defect and it is, therefore, a supplement to other works on medicine. It deals entirely with the treatment of diseases and of symptoms, and in general this is done clearly and fully. The amount of space devoted to the different diseases, or classes of disease, seems to be judiciously arranged, for instance, two chapters are given to the treatment of tuberculosis and about the same amount of space to the specific infectious diseases. This may seem a disproportion until we reflect that in regard to the first the average practitioner is anxious for help, whereas he is familiar with all the most approved methods of the treatment of the specific infectious diseases.

We can commend the book as up to date and a valuable addition to the busy man's library.

NETTLESHIP ON THE EYE. New Edition. Diseases of the Eye, by Edward Nettleship, F.R.C.S., Ophthalmic Surgeon at St. Thomas' Hospital, London; Surgeon to the Royal London Ophthalmic Hospital, Etc. New (6th) American from the Sixth English Edition, Thoroughly Revised by William Campbell Posey, M.D. With a Supplement on the Detection of Color Blindness, by William Thomson, M.D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia. Just Ready. In One 12mo Volume of 562 Pages, with 192 Illustrations. Selections from Snellen's Test-Types and Formulæ, and 5 Colored Plates. Cloth, $2.25, net. Philadelphia and New York; Lea Brothers & Co.

This well-known work, which has passed through the press six times in England, and as many in this country, requires words neither of introduction nor of commendation to our readers. The present edition has been revised and adapted to meet the wants of American students and practitioners. A supplement considers the practical examination of railway employees for color-perception, visual acuteness and hearing. Then follows an appendix with a selection of therapeutic formulæ usually employed by American ophthalmologists. The book also gives what is required of candidates of the American public services, and closes with the method used in examining school children in some of our large cities. Many new illustrations have been inserted in this edition.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. A New and Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the Kindred Branches, with their Pronunciation, Derivation, and Definition, Including Much Collateral Information of an Encyclopedic Character. By W. A. Newman Dorland, A.M., M.D., Assistant Obstetrician in the University of Pennsylvania Hospital. Together with New and Elaborate Tables of Arteries, Muscles, Nerves, Veins, etc.; of Bacilli, Bacteria, Diplococci, Micrococci, Streptococci, Ptomains and Leukomains, Weights and Measures; Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc. With Numerous Illustrations and 24 Colored Plates. Leather. Pp. 770. Price, $4.50. Plain, $5.00. Index. Philadelphia and London: W. B. Saunders & Co. 1900.

The author states that it has been his aim to produce in a volume of convenient size, an up-to-date medical dictionary, sufficiently full for the varied requirements of all classes of medical men. In this he has succeeded; he has given us a word-book which is neither so unwieldy as to be too large for handy, every-day use, nor so condensed but that it can be relied on for every occasion. It contains all medical terms required by all classes of medical men and medical students, and yet it is so compact that it is as convenient in size as the ordinary abridged dictionary. While it is not encyclopedic in character, it contains a large amount of descriptive matter, together with many important tables. It is profusely and excellently illustrated. The colored illustrations are especially fine; the plates showing the arteries and veins, and those showing the transverse section of the spinal cord, are particularly worthy of notice, as are the half-tone plates on the anomalies of the placenta. The book is printed on thin Bible paper, and is bound in flexible cover, the former adding to its compactness, the latter to its convenience in handling.

Miscellany.

Malaria Serotherapy.—Fifty patients with malaria were treated early in 1899 with serum from horses with the "Sterbe," a local epizootic, and the malarial infection was promptly cured. None of the patients have since contracted the infection, while many of their neighbors were affected during the rainy season. These results were attained by Dr. Kuhn, a German staff physician at Groot Fontein, in German Southwest Africa. Other experiences have confirmed the curative and preventive value of this serotherapy and Dr. Kuhn is now on his way home to present the authorities with his official report. A preliminary communication in the *Deu. Med. Woch.* of November 1 is confirmed by private advices as to the remarkable results attained in the hospitals with the serum. It transforms a chronic, relapsing malarial infection into an acute affection which runs its course in two to six weeks, with complete recovery and subsequent immunity.

German Burlesque.—The annual burlesque number of the *Muenchener Medicinische Wochenschrift* has been received and is full of fun. The "Bakers' Congress" is an amusing tragicomedy, dealing with the lodge question and the creation of a Tribunal of Honor for Bakers. The department-store advertisement offers medical attendance at different prices, the "lodge physicians" in the basement "imported still alive at great expense from Berlin. They will work for lower prices than are possible in any other trade, only to be secured by the extreme indigence of these gentlemen, who are not coolies, but diplomaed physicians." Professor Swindel, of Mississippi College, reports the wonderful cures of neurasthenia obtained with his screw "quietrix," which, inserted between the atlas and epistropheus, temporarily suspends the function of the cerebrum. Another communication announces the discovery of the prescribing center. Excitation of the centripetal fibers for bronchitis, for instance, invariably induces a purely reflex act; the hand writes "syr. ipecac." For organic and nonorganic nervous affections, the reflex response is always: "Mixtura nervina," etc. Prescribing, the writer proves, is a purely subcortical reflex action, with which the gray cortical substance has nothing to do. The report of the Medical Congress for 2001 is mainly devoted to discussion of means "to relieve the members of the profession from the overwhelming number of patients with which they are now burdened, owing to the fabulous incomes of the physicians in the colonies, which have attracted so many colleagues to foreign lands. The remedy is only to be found in reducing the standard of admission to the medical schools and shortening the course. As the curriculum now consists merely of the application of water and the administration of organs for affections in corresponding organs, we need no longer be hampered by the traditions of our ancestors. Three months at a female seminary is ample preparation for the study of medicine, or the ability to read the daily paper aloud correctly." In the "Points for Construction of a Thesis" it is advised to "always commence with Hippocrates, to describe the symptoms and food of the patient to the minutest details and fill pages on pages, to avoid original ideas, and to copy the bibliography from the latest medical journal at hand. Never condense; add as many pictures as possible, if only of the cuspidor or test-tubes used, and present all the old exploded theories." The "inhaustor" is a new apparatus advertised, a large funnel in which a vacuum is created at the door of the office building. The passers-by are sucked into this funnel and landed in the waiting-room with some traumatism requiring immediate attention.

MARINE-HOSPITAL NOTES.

Asst.-Surgeon L. P. H. Bahrenburg, who was on duty in Liverpool during the prevalence of plague in Glasgow, has returned to New York, where he is stationed as assistant to the medical inspector of immigrants.

On the request of Governor Atkinson of West Virginia, Assistant-Surgeon W. C. Billings, who successfully managed an epidemic of smallpox in Charlestown, W. Va., last summer, has been detailed to confer with Dr. Flowers, of the State Board of Health, at Clarksburg, W. Va., with reference to measures necessary to suppress an epidemic of smallpox now existing in that place and the surrounding county.

Asst.-Surgeons Dunlop Moore, B. H. Earle, and B. J. Lloyd returned on November 28 from Dutch Harbor and Nome, Alaska, where they have been on duty during the past season, and have been assigned to duty respectively at Port Townsend quarantine, Astoria quarantine and San Francisco quarantine.

ALUM AND BACTERIAL GROWTH.

At the request of a committee of the Medical Society of the District of Columbia, of which Dr. Samuel C. Busey is chairman, the surgeon-general of the Marine-Hospital Service has directed that the hygienic laboratory of that service shall investigate the subject of the possible inhibitive effect of alum on the growth of bacteria in water, to which it may have been added as a preliminary step in purification by filtration. The experiments have been commenced, and will form the subject of observation for a period of thirty days, the alum being used in quantities varying from 3 to 6 grains per gallon, the amounts usually employed in such preliminary purification or sedimentation.

Societies.

Seabord Medical Association of Virginia and North Carolina, Weldon, N. C., Dec. 13.

Roentgen Society of the United States, New York City, Dec. 13-14.

Western Surgical and Gynecological Association, Minneapolis, Minn., Dec. 27-28.

Pan-American Medical Congress, Havana, Cuba, Feb. 5, 1901.

The Holyoke (Mass.) Physician's Club met on November 21, completed its organization and elected Dr. Carl A. Allen, president; Dr. Daniel F. Donoghue, vice-president; Dr. John J. McCabe, secretary, and Dr. J. Clark Hubbard, treasurer.

The Redwood County (Minn.) Medical Society held its first meeting at Sanborn, November 13, and elected Dr. George W. Boot, Sanborn, president; Dr. Giles R. Pease, Redwood Falls, vice-president; and Dr. R. H. Ray, Walnut Grove, secretary and treasurer.

The Penobscot County (Maine) Medical Association held its annual meeting and election of officers at Bangor, November 20, with the following result: Dr. Atwell W. Sweet, president; Dr. Walter L. Hunt, vice-president; and Dr. Bertram L. Bryant, secretary, all of Bangor.

The Inter-County (Wis.) Medical Society, at its annual meeting held in Eau Claire, November 20, elected Dr. William B. Lyman, Mendota, president; Drs. Frank W. Epley, New Richmond, and Charles H. Elkinton, Eleva, vice-presidents, and Dr. Joseph J. Selbach, Eau Claire, secretary and treasurer.

The Tri-State Medical Association of the Carolinas and Virginia will meet on February 26, 1901, at 10 o'clock a. m., at the Jefferson Hotel, Richmond, Va. All Fellows desiring to read papers communicate with the secretary, Dr. J. N. Upshur, 210 W. Grace street, Richmond, Va., giving title, not later than January 15, 1901.

The Des Moines County (Iowa) Medical Society, which has been inactive for several years, reorganized at its twenty-seventh annual meeting held at Burlington, November 21, and the following officers were elected: Dr. Nathaniel M. McKitterick, president; Dr. William W. Milligan, vice-president, and Dr. George Kinney, secretary and treasurer, all of Burlington.

The Mason County (Ky.) Medical Society held its regular meeting at May's Lick, November 27. Dr. A. N. Ellis, Maysville, reported some interesting clinical experiences; Dr. Amos G. Browning, Maysville, presented a paper on "Perineal Abscess"; Dr. Cook, Wedonia, submitted a report on typhoid fever; Dr. Edwin Matthews discussed the relation of dentistry to general medicine, and Dr. Thomas E. Pickett, Maysville, read a sketch of Dr. Daniel Drake, founder of the Medical College of Ohio and author of "The Diseases of the Mississippi Valley" which was especially appropriate, as the meeting was held at the place which a century ago young Drake left to study medicine with Dr. Goforth, of Cincinnati.

THE BURLINGTON (Vt.) CLINICAL SOCIETY held its annual meeting, November 30, and after an address by Dr. Samuel E. Maynard, the retiring president, elected the following officers: Dr. Marshall C. Twitchell, president; Dr. Frederick E. Clark, vice-president; Dr. C. K. Johnson, secretary and treasurer; Drs. Maurice J. Wiltse, Bingham H. Stone and Hoyt R. Wilder, executive committee, and Drs. Donly C. Hawley and Samuel E. Maynard, special committee on program. The secretary of the Vermont State Medical Society, Dr. Donly C. Hawley was asked to explain in detail the reorganization scheme on foot in that society. At the close of his remarks, the following resolution was adopted by a unanimous vote, "Resolved, That the Burlington Clinical Society is in hearty sympathy with the re-organization plan of the Vermont State Medical Society."

THE NEW YORK STATE CHARITIES AND CORRECTION CONFERENCE.—At the meeting held in Albany on November 20, 21, and 22, Governor Roosevelt, in delivering the address of welcome, said that as the conference would discuss subjects pertaining to penology, he desired to say that the greatest blot on American civilization is lynch-law, and it flourishes most rankly in states where there is a constant miscarriage of justice. Lynch law is one form of mob violence, and should be put down at all hazards. William Pryor Letchworth, president of the conference, said that the sum expended by the state, municipalities, and counties for charitable purposes, and for reformatories and prisons, including that for buildings, during the year ended September 30, 1899, was $9,768,515. Adding to this the $18,517,782 expended by private charitable organizations, the total was raised to $28,286,297. J. Graham Phelps Stokes, in discussing the University Settlement work in New York, said that it was often asserted that the three chief causes of poverty are lack of employment, vice and crime, but he felt sure that there was an underlying predisposing cause in the vast majority of cases—an undeveloped or defective personality. He thought that no efforts to reduce the world's poverty would prove successful unless they included means for reaching and developing the characters of those in poverty or on its verge. The report of the Committee on the Institutional Care of Destitute Adults gave the following as essentials to success: Competent officials, good buildings—those in which proper attention is given to fresh air, sunlight and general sanitation; proper discipline, including suitable employment, and thorough classification. The report of the Committee on Mentally Defective, presented by Dr. William P. Spratling, of the Craig Colony for Epileptics, contained the following recommendations: To prevent insanity, epilepsy, imbecility, idiocy, and feeble-mindedness as far as possible by making it impossible for them to marry; to build less expensive structures in which defective and dependent state charges shall live; to maintain at less cost the cases that are chronic and incurable, and at greater cost, to stimulate recovery, those who probably can be cured; and to give to those who ought to have it, an education that they may use, either in the institution that cares for them, that the cost of their maintenance may be lessened, or in the outer world when they leave the institution. In the discussion on Criminology, Thomas Sturgiss, New York City, chairman of the board of managers of Elmira Reformatory, read a communication on "The Treatment of the Criminal." The following conditions were considered as essential to the adoption of a true system of treatment in all penal institutions: Centralization of prisons of all kinds; taking of all prisons out of reach of political influence; proper classification and distribution of all criminals; specializing of such institutions; such classification to be made by the head of the institution to which the prisoner is first sent; adoption of the principle that reformation and not punishment is the end sought by imprisonment, and proper application of the parole system and a constant fostering of the element of hope. The following officers were elected: Robert W. De Forest, president; T. Guilford Smith, and Simon W. Rosedale, Albany, and Thomas M. Mulry, New York, vice-presidents; Robert W. Hebberd, Albany, secretary; Dr. Lee K. Frankel, New York, Miss Lucy C. Watson, Utica, and Mrs. August Falkes, Syracuse, assistant secretaries, and Frank Tucker, New York, treasurer.

THE WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.—The next annual meeting of this association, of which Dr. O. B. Campbell, Kansas City, is president and Dr. George H. Simmons, Chicago, secretary, will be held at Minneapolis, Minn., December 27 and 28. An invitation is extended to the surgeons and gynecologists of the Great West to attend this meeting and take part in its deliberations. The meetings are held during the holidays, thus enabling those to attend who belong to the teaching faculties of medical colleges without interfering with their college duties. The following is the preliminary program:

Anesthesia Through Cocainization of the Spinal Cord; Its Use and Limitation. DR. J. B. MURPHY, Chicago.
Adenoma of the Tongue. DR. J. E. SUMMERS, JR., Omaha, Neb.
Removal of Superior Maxilla. DR. ALEXANDER H. FERGUSON, Chicago.
Two Rare Tumors: (1) A Calcareous Uterine Fibroma, and (2) a Fibro-Myoma of the Urethra and Anterior Vagina. DR. H. G. WETHERILL, Denver, Colo.
Post-Operative Fistula. DR. J. R. HOLLOWBUSH, Rock Island, Ill.
Insanity in Women Associated with Pelvic Disease. DR. W. O. HENRY, Omaha, Neb.
Demonstration of Gynecological Operations by Means of Casts. DR. J. CLARENCE WEBSTER, Chicago.
The Choice of Operation for Stone in the Bladder. DR. B. B. DAVIS, Omaha, Neb.
Traumatic Injuries of the Ureter. DR. J. W. MACDONALD, Minneapolis, Minn.
Hypospadias. DR. C. H. MAYO, Rochester, Minn.
The Operative Management of Retro-Peritoneal Abscess. DR. G. G. COTTAM, Rock Rapids, Iowa.
Pelvic Injuries. DR. R. HARVEY REED, Rock Springs, Wyo.
The Pathology of Fractures. DR. LEWIS SCHOOLER, Des Moines, Iowa.
Operative Management of Tubercular Hip-Joint Disease (A Critique). DR. A. F. JONAS, Omaha, Neb.
A Further Report of a Case of Cerebral Cyst. DR. VAN BUREN KNOTT, Sioux City, Iowa.
Anatomical and Surgical Observations on Appendiceal Abscess. DR. A. C. BERNAYS, St. Louis, Mo.
Topical Applications in Gynecological Practice; Their Use and Abuse. DR. J. W. ANDREWS, Mankato, Minn.
Two Cases of Appendicitis of Unusual Course. DR. HERMAN E. PEARSE, Kansas City, Mo.
A Consideration of the Different Operative Procedures in the Treatment of Retro-Displacements of the Uterus. DR. O. B. CAMPBELL, St. Joseph, Mo.

SYMPOSIUM ON FRACTURES.

. . . . . DR. J. P. LORD, Omaha, Neb.
a. Some Observations on Compound Fractures. DR. D. S. FAIRCHILD, Clinton, Iowa.
b. Ambulatory Treatment of Fractures. DR. FRED. RUSTIN, Omaha, Neb.
c. The Treatment of Skull Fractures. DR. J. E. DUNN, Minneapolis, Minn.
d. What Material Improvement in the Treatment of Fractures has Resulted from the Use of the X-Ray? DR. C. E. RUTH, Keokuk, Iowa.

SYMPOSIUM ON THE SURGICAL INFECTIONS OF THE KIDNEYS AND THE CYSTONEPHROSES.

a. Etiology and Pathology. DR. M. L. HARRIS, Chicago.
b. Symptomatology and Diagnosis. DR. W. H. ALLPORT, Chicago.
c. Treatment. DR. L. L. MCARTHUR, Chicago.

SYMPOSIUM ON SURGICAL TUBERCULOSIS.

Tuberculosis of Fascia. J. CLARK STEWART, Minneapolis, Minn.
Tuberculosis of Tubes, Ovaries and Peritoneum. DR. ROLLIN E. CUTTS, Minneapolis, Minn.
Tuberculosis of Bones and Joints. DR. KNUTE HOEGH, Minneapolis, Minn.
Treatment of Tuberculosis of Bones and Joints. DR. JAMES E. MOORE, Minneapolis, Minn.

Chicago Physicians' Club.

November 26, 1900.

DR. HAROLD N. MOYER in the chair.

THE PHYSICIAN AS A WRITER OF MEDICAL LITERATURE.

DR. HAROLD N. MOYER spoke of the great carelessness exhibited in medical writings. To-day medical literature is sadly in need of men who are competent to take the vast number of accumulated, and, in some cases, isolated, facts, shape them, co-ordinate them, and put them into the proper place where they belong. The services of such men are indispensable to the medical profession and to medical science.

SHOULD THE PHYSICIAN WRITE?

DR. G. FRANK LYDSTON discussed this subject. Persistent writing enables the physician to acquire a knowledge of medicine and of surgery which can not be obtained in any other manner. Many works show breadth of culture and depth of thought. According to his experience, only 25 per cent. of all medical students express themselves in good English. As models of literary style he mentioned the writings of Van Buren and Fothergill.

COMMON FAULTS OF THE WRITINGS OF MEDICAL AUTHORS.

DR. GEORGE H. SIMMONS said that most physicians write too long papers. Papers ought to be short, for two reasons, 1, because the readers desire them so, and 2, because editors would be able to present their readers with a greater variety of topics, which is impossible when two-thirds of the space in a medical journal is taken up by a long article. A long article is read by but few of the readers. Probably three-fourths of all papers published are prepared for reading before medical

societies. They are prepared hurriedly, and the subjects are not well thought out. Because such a paper sounds well when read is no reason why it would read well when printed. When one prepares a paper with the idea of placing it before thousands in its printed form he should use more care in its preparation than when it is written for the purpose of reading before a possible dozen or two in a society. Too many papers bristle with unnecessary details. Examples were given. Some writers were not able to stick to their text. Meaningless titles were dwelt on, and many examples given. The title should suggest the contents of an article. Faults in bibliographic references were pointed out; also faults in case reporting. The style which some practitioners adopt in reporting cases is to be deprecated. Several examples of involved and verbose styles were given. He urged the liberal use of central and side head-lines to guide the reader. The reckless confusion and mixing of tenses should be avoided.

HOW TO WRITE WELL.

DR. GEORGE F. BUTLER discussed this subject. A prerequisite to writing well is to think well. To cultivate a logical sequence of ideas and train the mind to precise methods of coordination and lucidity of reasoning is a hard task, yet on this systematic basis of correct ratiocination is founded the higher power of appropriate expression. As a general principle, save in cases of superior talent, the less of self injected into literary productions, the more acceptable the results. Style should be marked by the suppression of that arrant egoism which mars the works of not a few able writers and detracts from the strength and charm of their performance. Association with great minds, through diligent perusal of their works will be found in newspaper leaders of signal merit, fully equal in style to the best magazine literature, and, from the necessity of condensation, presenting admirable examples of concise, logical reasoning combined with discriminating observation of the leading events of the day.

MEDICAL WRITERS FROM THE STANDPOINT OF THE READER.

DR. HENRY F. LEWIS said the busy practitioner can only read a few medical journals, and these should be the best. Articles that appeal to the casual medical reader are scattered far and wide through medical journals. The medical writer speaks too frequently with an authority that is not his own. There is too much compilation, and not enough of the author's own observations and experience given. Too much space is devoted to what this and that man has said regarding a certain subject. Lengthy quotations of the works of others are unnecessary, because they can be found in the literature by those who are sufficiently interested to look them up. Articles are not sufficiently concise. Greater condensation is necessary. The average writer consumes too much time and space with prefactory observations, or long, windy introductories. Brevity, without vagueness, is desired. Long and involved sentences are fatal to clearness, and should be studiously avoided. Subjects should be well divided; there should be a liberal use of central and side head-lines to suggest to the reader what an article contains. He favors appending titles after the author's name, as, for instance, "Professor of the Principles of Surgery in the Squedunk Medical College," etc., but not to the extent to which it is carried by some authors. Abstracts of papers should be made by the authors themselves rather than by editors, if possible, as they can bring out the salient points more clearly. Abstracting is frequently done in a haphazard manner by many medical journals. This should be intrusted to experts in particular lines of work.

DR. HUGH T. PATRICK said that some of the very best textbooks extant on general medicine are nothing but compilations. The men who can select the good from the bad in medical literature, pick it out, and present it to the medical profession in a simple, concise, readable form are as much to be praised as are those men who discover and promulgate something new. Physicians should not write for editors, but for the readers.

DR. SNYDACKER said that every author should give a concise, terse summary of his deductions or conclusions at the end of an article.

DR. J. HOMER COULTER said that authors in preparing papers, either to be read before medical societies or for publication, should not only consider the class of readers which they intend shall read their papers, but should exercise as much care in their preparation as they would in examining and treating patients. The medical writer should compress his thoughts into the fewest possible words.

Cleveland Medical Society.

Regular Meeting, October 12, 1900.

President Dr. Henry S. Upson, in the chair.

The Committee on Necrology reported resolutions upon the death of Dr. Ralph J. Wenner, which were unanimously adopted.

UTERUS SEPTUS WITH A VAGINAL SEPTUM.

DR. FRANK E. BUNTS said his patient had been married at 22, and had a miscarriage eight months afterward. Six weeks later she was found to be in the fifth month of pregnancy and was delivered of a living child at term. Even then a diagnosis of uterus septus was not made. Later she found she had a double vagina and uterus, and thought she could tell from which side she menstruated. By digital examination no abnormality was found, but inspection showed a septum with the smaller vagina on the right and a cervix in each. She was anxious to have a child, but feared a miscarriage. An operation was agreed on and the method employed is new, so far as known. A long-bladed clamp was placed along the upper attachment of the septum and another along the lower. The septum was then excised, and the edges of membrane at each insertion stitched with running catgut suture before removing the clamps. The operation was absolutely bloodless. A laceration of the right cervix indicated that the term pregnancy had occurred on that side, and the left ovary was removed in the hope of preventing conception on that side of the uterus. Unfortunately the patient has not been seen since her prompt recovery from the operations.

DR. JOHN H. BELT had attended this case some time previously in confinement, and had not discovered the anomaly.

DR. HUNTER ROBB said that he had once examined a similar case without finding the anomaly. Only on the occasion of a later examination he accidentally found it. In this case the dividing membrane was quite thick, and there was a cervix in each compartment. A subsequent operation for ovarian disease disclosed the fact that the body of the uterus was not divided.

DR. WILLIAM H. HUMISTON said that he had examined the case reported by Dr. Bunts without finding the condition, and thought that it was a very easy mistake to make unless an anesthetic and speculum were employed.

DR. SAMUEL W. KELLEY mentioned a case which he had seen sixteen years previously, in which there had been pelvic injury from a fall. On examining for a separation of the symphysis, he found a septum in the vagina and also in the uterus. Five years later, after she had borne a child, he examined the case and found the septum had been torn, and she gave a history of having had a difficult labor.

DR. JOHN L. HESS reported a similar case in which he had discovered the anomaly by accident. In his case the septum, instead of being placed in the anterior direction, extended from one side to the other. One of the openings was not more than three-fourths of an inch in diameter, and appeared to end in a cul-de-sac.

THE PRESENT STATUS OF SUGGESTIVE THERAPEUTICS.

DR. HUBERT L. SPENCE traced the evolution of the "hypnotism" of Braid to the psychotherapy of to-day. After an experience of fifteen years he has come to regard the so-called sleep as an arbitrary and artificial phenomenon, and seldom necessary for therapeutic purposes. For the same reason all physical agencies, as revolving mirrors and objects for securing fixation of gaze, are generally superfluous. The conditions tending to mental inertia, as quietude, limitation of movement, and muscular relaxation, favor suggestibility. Post-hypnotic or deferred suggestions can be made operative without preceding hypnosis. In some hysteric and neurasthenic cases with marked disintegration of personality, deep hypnosis is

needed. In this state hysteric anesthesia and other defects can be removed, and the restitution of function thus achieved may be carried over into the waking state. All hysteric and markedly nervous patients should be approached with caution. An explanation of the nature and mode of treatment gains confidence and dispels apprehension. In no instance has the speaker observed unpleasant consequences following this treatment. While functional affections, and especially the psychoneuroses, are generally amenable to suggestion, direct or otherwise, many organic diseases, or rather their nervous accompaniments may be thus greatly benefited. Obviously it behooves the physician in all cases to carefully differentiate these conditions, and, though employing psychotherapy, by no means to neglect the many other remedial measures that judgment demands.

DR. HAMILTON BIGGAR, JR., presented specimens removed from a dermoid cyst. The tumor contained a large bunch of hair and a number of teeth, which were pretty well developed. He showed another specimen of calcification of the corpus luteum. The shell was hard and brown, and composed of lime salts, while the interior cavity was filled with a dark brown fluid.

THYROIDECTOMY WITHOUT ANESTHESIA.

DR. GEORGE W. CRILE reported an operation on a case of goiter in which the tumor interfered with breathing. It was a large one and had caused several attacks of cyanosis. Because of the exhaustion of the patient through the extraordinary effort at breathing, it seemed impossible to administer an anesthetic. He had therefore preferred to make the operation under cocain anesthesia, and had asked the patient who had been sitting up on account of the difficult breathing, to lie down for the injection of the cocain, when respiration practically ceased from pressure of the tumor. As the patient at once became thoroughly unconscious, he operated without an anesthetic, removing the goiter in the median line, and then commenced artificial respiration at once. The patient recovered after having been unconscious sufficiently long for the completion of the operation, of which she had no knowledge whatever.

Cincinnati Academy of Medicine.

Regular Meeting.

President C. L. Bonifield, in the chair.

FETAL MONSTROSITY.

DR. E. GUSTAVE ZINKE presented a specimen of fetal monstrosity. In January of this year he had been consulted by a young married woman, 23 years of age, suffering with obstructive dysmenorrhea. Under his advice, the cervical canal was dilated. She conceived soon afterward, the date of her last menstruation being March 23. Pregnancy at first was uneventful beyond a little gastric distress. On examination at about the sixth month he had found the abdomen as large as that at term, and was able to diagnose a large amount of amniotic fluid. Fetal movements were readily palpated, but though the child was in the first position, the fetal heart-sounds could not be detected. He then informed the husband of the possibility of multiple pregnancy or of monstrosity, but requested that this knowledge be kept from the wife. At about six and a half months abortion took place, the rupture of the membranes being accompanied by the escape of an enormous amount of amniotic fluid, the abdomen then assuming a size commensurate with the length of the pregnancy. The vertex was rapidly delivered, but as the face began to present, progress was arrested, and on examination a large mass could be felt apparently in connection with the child's face. When delivery was accomplished this mass was found to be united to the child by a pedicle attached to the junction of the hard and soft palate, and continuing well outside the mouth. In weight it was about two pounds. Examination showed it to be in all probability a second fetus that had undergone destruction.

LIMITATIONS OF THE X-RAY.

DR. N. P. DANDRIDGE thought that the other side of the question of X-ray diagnosis—those cases in which failure has been recorded—should be discussed. He himself had several weeks previously operated on a man at the Cincinnati Hospital who had been shot in the back in the region of the spine of the left scapula. An X-ray photograph taken antero-posteriorly revealed the bullet very well, and though the foreign body was causing no trouble it was thought best on account of the ease with which its apparent position had been located, to attempt its removal. Though a large crucial incision was made and exploration continued down to the thorax, every portion of the neighboring tissue being carefully palpated with the finger, even the scapula being lifted up in the search, the bullet could not be found. He also narrated many other instances of failure in the experience of others, one notable example where a collar button had slipped down a man's back and unfortunately stopping at the lumbar region, gave a photograph of apparent renal calculus; an operation was performed and nothing found, much to the discomfiture of the operator. In fracture cases, X-ray photographs are often of the greatest importance as medicolegal testimony. Taken in lateral and perpendicular planes with the same position of the limb, or in the same plane with a different position of the limb, a fairly good or very bad result might be shown: particularly was this the case in fractures of the fore-arm. He presented several pictures in illustration of this point. Another point of some importance was that provisional callus was not shown by the X-ray photograph, and that often a fracture of some weeks' duration, but all clinical symptoms doing well, would present the appearance of non-union. Within the past few weeks, he had been greatly aided by an X-ray photograph in a case of fracture of the upper part of the humerus with dislocation of the shoulder-joint. X-ray photographs were exhibited showing the normal shoulder, the dislocated shoulder and the dislocation with fracture. In the latter case he had delayed two weeks, giving time for granulation tissue to form around the fractured ends, and then through a small open incision, drawing the head of the bone into its normal position according to the operation of McBurney. He thought delay of a few weeks in operating beneficial as liable to prevent infection between the fractured ends, and consequent non-union.

DR. E. H. SHIELDS presented a patient of about 50 years of age, female, afflicted with lichen ruber of varying appearance: on some parts of the body presenting the appearance of lichen ruber planus, in others that of lichen ruber acuminatus. She was being treated with Fowler's solution in small doses.

DR. GILES MITCHELL presented a specimen of large intrauterine fibroid, the uterus completely surrounding the tumor and increased to many times its normal size.

CARCINOMA OF THE BREAST.

DR. P. S. CONNER dealt chiefly with the symptoms of breast cancer and the unreliability of each as diagnostic, though when taken together they made a very complete picture. He reviewed the various operative procedures and narrated instances of simple removal followed by cure, while the radical operation was very often followed by recurrence, even when performed early. Therefore, he thought every case a study and law unto itself, and he had himself experienced cases in which recovery took place even when the supraclavicular glands were extensively involved, while on the other hand all were familiar with the recurrence that often speedily follows total extirpation. Yet he was a firm believer in operation even if a very slim chance existed for the patient. The removal of a foul sore was of the greatest service if nothing else is accomplished.

The paper was discussed by Drs. W. D. Haines, Ransohoff, Freidberg, Bonifield and Hall.

California Academy of Medicine.

Meeting held Oct. 23, 1900.

President Dr. D. W. Montgomery, in the chair.

DR. PHILIP KING BROWN presented some pathological specimens from dogs. The first one was a case of tuberculosis in the heart wall and pericardium of a sky terrier, six years old

and very stout. For some weeks there had been dyspnea on exertion. In the family was a child with pulmonary tuberculosis. Autopsy showed enlargement of bronchial and mediastinal glands, and tubercles studding the pericardium. The heart itself was much enlarged, and extremely irregular in outline owing to the nodular elevations scattered over the auricular and ventricular walls. Microscopical examination showed structure of tuberculosis with large areas of caseation in the center of all the large nodules.

He next presented three skulls of dogs showing a condition of osteoporosis. The symptoms in all three cases were those of chorea of exaggerated type. No etiological factor was to be obtained. The great thickness of the skull was not noticed during life. The dogs were all of different breed, a cocker, fox terrier, and pointer. All were destroyed after various kinds of treatment were tried. The thickness of the skull was greatest in the fox terrier, the section measuring from ⅜ to ½ inch in parts ordinarily less than ⅛ of an inch thick. The thickened bone was so soft that the thumb nail could be pushed well into it. The thickening was chiefly in the medullary part, the plates, however, also taking a small part in the process.

DR. WILLIAM OPHULS in referring to these last specimens presented by Dr. Brown, said that he had not been able to find any signs of inflammatory processes. He thought that they belonged to those cases of osteoporosis found in some animals, but never in human beings.

DR. D. W. MONTGOMERY said that he had assisted at an autopsy where a similar condition had been found in a human being. The bones of the head were much enlarged, as also were both clavicles and a scapula. When the outer table of the skull was cut through, it came off, leaving a red, porous, spongy mass, which looked like a granular mass. The sawing was continued and the inner plate taken off. The bones microscopically had a porous condition. He had never seen anything like it in the literature.

DR. H. J. KREUTZMANN presented a patient on whom he had two months ago operated for complete prolapse and perfect inversion of the vagina, with large cystocele and rectocele. Special stress was laid on the cure of cystocele, which the Doctor considers an essential point in curing prolapse. The operation was fully described; it consisted materially in the detaching of the bladder from the vagina and from the uterus, with the idea of dislocating the bladder from its pathological abnormal position and bringing it back to its normal habitat. Care is taken not to destroy nor to remove the layer of fascia and muscle under the vaginal mucous membrane. In women past or near the menopause vaginal fixation is done. The redundant tissue of the vaginal flaps is dissected and the incision closed, the lower part of the vaginal flap being sewed directly on the uterus. If any operation has to be done on the uterus, it is done, then posterior colporrhaphy and perineorrhaphy is made. The Doctor criticised the usual operation performed for rectocele and cystocele as illogical; muscle and fascia must be laid open and directly united; a simple excision of a piece of the vaginal mucous membrane and union will not do. It is immaterial what the shape of the incision is. He bluntly separates after making a longitudinal incision for cystocele, and a crescent-shaped one for rectocele.

DR. J. F. MCCONE said that he had examined the patient and had found physiological restoration of the perineal body and the anterior vaginal wall. He had been much dissatisfied with the described operations for cystocele, and agreed with Dr. Kreutzmann that the operation ordinarily done, that of simply denuding the mucous membrane and bringing the edges together, was insufficient. The same held good in the usual operations for rectocele.

DR. DUDLEY TAIT asked Dr. Kreutzmann what advantage he finds, where it is necessary to fix the uterus, in vaginal fixation, over abdominal. It would seem to him very logical to begin the operation above, fix the uterus, and then do what is necessary in the vagina. He thought recurrences, after these operations, may come one or two years after.

DR. KREUTZMANN said of the advantage of abdominal fixation over vaginal, that he had no faith in the former operation, unless the operator allows no space to remain between the uterus and the abdominal wall. Numerous instances are on record of hernia existing between the folds of these so-called false ligaments. He had been thoroughly satisfied with vaginal fixation in these cases.

New York County Medical Association.

Stated Meeting, October 15, 1900.

THE NEED OF BETTER ORGANIZATION IN THE PROFESSION.

DR. FREDERICK HOLME WIGGIN, on retiring from the office of president, spoke briefly on this topic, which was opportune because the State Association was on the eve of considering the plan of re-organization. Dr. Wiggin said that the readiness with which such a large and active body as the New York County Medical Association had consented to become a subordinate county association of the reorganized State Association was most significant, and to his mind was positive proof that the medical profession was reaching out for better organization. An organization managed purely for selfish interests could not be expected to achieve all that is meant by the broad use of the term "success," any more than could the selfish individual. Some of the smaller counties had objected to paying their share of the expense of organization on the ground that each county should look after its own affairs. It was just this narrow and selfish policy that had already placed the profession in such a bad light before the general public. Small county associations could not be expected to afford their members the same protection against unjust suits for malpractice as would result from a well-organized State Association taking up such a cause for all of its members. Our legislators cared little for the petitions of those appearing before them in their individual capacity, but let these persons come as the representatives of an organization having a membership of several thousand, and the result would be very different. The speaker said that he had been brought in contact with many physicians throughout the state, and knew positively, assertions to the contrary notwithstanding, that they were deeply interested in such a scheme of organized defense.

DR. PARKER SYMS then took the chair, and delivered his inaugural address. The Doctor called attention to the successful work of Dr. Wiggin during the past year, to the new relation the New York County Medical Association bears to the State Medical Association, to the need of more thorough organization, and to the plan on which the State Medical Association has been organized.

A memorial address on the late Dr. Lewis Albert Sayre was given by Dr. John Shrady, and one on the late Dr. Samuel Smith Purple was delivered by Dr. J. W. S. Gouley.

A LOVING CUP FOR DR. WIGGIN.

Immediately after the formal adjournment of the meeting of the Association, the audience was requested to remain seated, and then Dr. Wiggin was presented with a "loving cup" and an appropriate engrossed memorial, as a token of the high appreciation by the members, of his untiring and unselfish work for the Association while acting as its president.

Southern Surgical and Gynecological Association.

Thirteenth Annual Meeting, held in Atlanta, Ga., November 13-15, 1900.

(Concluded from p. 1426.)

RECENT TECHNICAL IMPROVEMENTS IN THE SURGERY OF THE STOMACH FOR CARCINOMA.

DR. WILLIS G. MACDONALD, Albany, N. Y., made reference to the early history of operations for the relief of this disease. The technique employed by Billroth in his first pylorectomy was the technique of operations done by most surgeons for a number of years, with very slight modifications. This earlier operation presented many technical difficulties in its performance. Any one, or a combination of symptoms, is a sufficient indication for operation: 1. A chronic gastritis which is progressive in character under proper dietetic, medicinal and

physical treatment. 2. A loss of gastric motility. 3. Progressive diminution of gastric peristalsis. 4. A diminution of free hydrochloric acid, progressive in character. 5. Emaciation of the patient under forced diet. 6. Reduction of the hemoglobin in the blood, progressive to 65 per cent. or under, and a moderate leucocytosis. The widest extirpation is demanded in carcinoma of the stomach. The author called attention to the careful investigation of Cuneo and Most with relation to the distribution of lymphatics and lymph nodes as associated with carcinoma of the stomach. In a complete pylorectomy, it is desirable to remove the lymphatics along both curvatures of the stomach as well as those lying behind the pylorus. As a rule, the duodenum is not extensively involved in pyloric carcinoma, although a few observers have found infiltration of Brunner's glands in the upper portion of the duodenum. There is little justification for the total extirpation of the stomach in the majority of cases, and the probability of cure will not be greater than surgical resection. The old rule of cutting 1 cm. beyond all evidences of carcinomatous infiltration is not wide enough. Personally, the author feels that the line of excision in the stomach should be at least 3 cm. from the border of the last palpable infiltration, and in the duodenum at least 2 cm. from the most dependent portion of the growth. The immediate mortality for the operation of pylorectomy is an interesting study. Ewald condemned the operation because of its great mortality, 73 per cent., and until 1888 the mortality was somewhere in the neighborhood of 60 per cent. The mortality of Billroth was 45 per cent., of Mikulicz 30 per cent., of Kronlein 25 per cent., of Maydl 16 per cent., and of Kocher 8.7 per cent. Mayo Robson, in a study of 572 cases, collected from various sources, finds an average mortality of 30.4 per cent. Guinard found that in 148 cases of pylorectomy with end-to-end anastomosis, deaths were 56, or 37.8 per cent., and in 64 cases of pylorectomy with subsequent lateral anastomosis, there were 10 deaths, or 15.6 per cent. This showing has been equally favorable in the experience of others.

MENSTRUAL CONDITION OF THE AVERAGE GIRL IN AVERAGE HEALTH.

DR. GEORGE J. ENGELMANN, Boston, presented an interesting statistical paper on this subject, and the facts presented by him were culled from the records of 4873 cases from high and normal schools, colleges and department stores, girls between 15 and 26, the majority between 18 and 22, in rather better than average health, in good health, and in numbers sufficient to admit of positive deductions as to what may be termed normal or average menstruation. In brief, the menstrual period proper is intensified by the increase of all vital energies, followed by a depression which appears with the coming of the flow. Under ideal conditions and in perfect health, the physiological status is such that this epoch, preceded by a day or two of heightened activity, is marked by a moderate lassitude, mental and physical, the flow persisting for from four to five days. It is a period of heightened susceptibility that quickly records any variation from the normal; excitement or exertion, or fatigue, mental or physical, is promptly reflected by variation in the function, and in our every-day life such disturbing elements constantly occur, so that conditions actually existing vary greatly from this ideal. The average period of the average girl in average health presents very different features: Regularity in 50 per cent. of the cases only; recurrence every twenty-eight days in 30 per cent., varying most frequently from twenty-six to forty-two days, 45 per cent. being over twenty-eight days. The duration varies from two to seven days, average, 4.6; from 66 to 70 per cent. suffer more or less, the number of sufferers varying according to age and nature of occupation, between 30 and 90 per cent. Lessened ability for exertion, mental or physical, is admitted by 60 per cent. Some few are habitually incapacitated from work, and 30 per cent. occasionally.

OPERATION FOR TREATMENT OF MARKED PROLAPSE OF RECTUM IN WOMEN.

DR. J. WESLEY BOVEE, Washington, D. C., described an operation for the relief of this condition. In his case marked prolapse of the uterus was associated with hemorrhoids and great procidentia of the rectum in a woman to whom the uterine appendages were of little value. No simple operation would have relieved the rectal condition while the uterus was in such a state of prolapse, and vice versa. These conditions caused him to resort to the unique radical procedure which he described by narrating the case.

CARBOLIC ACID IN SURGERY.

DR. SENECA D. POWELL, New York City, said that in 1894 he first became convinced that he could control the action of carbolic acid under all circumstances. At that time he used it in its full strength of 95 per cent. in an abscess cavity on a patient suffering from suppurative appendicitis. Since then he has extended its use to all cases where he has had to fight disease due to microbic infection, and he is now prepared to assert its safety and reliability, when properly brought in contact with an infected surface. He bases his statements on the results of treatment of hundreds of cases which have come to his clinic at the Post-Graduate Hospital, New York. The essayist quoted Phelps, of New York, as saying that to him (Dr. Powell) the profession is indebted for one of the most useful discoveries ever made in surgery, namely, the antidotal effect of alcohol in carbolic acid. The speaker has used carbolic acid for years in the treatment of infectious and bone diseases in various parts of the body. He recommends its use likewise for erysipelas and abscesses. During the past six years he has treated every phase of microbic disease with this agent, and as early as 1894 hip-joint cases were treated by him with pure carbolic acid and with a large glass drainage-tube. Abscesses, wherever located, can be speedily treated by the injection of, or swabbing with, pure carbolic acid. The size of the abscess or the amount of surface covered is not a factor. Only thorough drainage and complete removal of the pyogenic membrane need be considered.

EARLY EXCISION FOR DISLOCATIONS NOT REDUCIBLE BY MANIPULATION.

DR. WILLIS F. WESTMORELAND, Atlanta, reported two cases of this condition in which he had operated successfully.

PLEA FOR THE BETTER APPRECIATION OF THE LIMITATIONS OF OPERATIVE WORK.

PRESIDENT A. M. CARTLEDGE, Louisville, delivered the Address, with the above title. Every surgeon must be his own arbiter in deciding questions, and the judgment he displays will depend on his professional learning and wisdom. Methods of surgical diagnosis have undergone striking modifications within the past decade and have influenced operative work. The older surgeon made his diagnosis of abdominal and pelvic lesions slowly; his skill at that time consisting largely of a delicate sense of touch, trained eye to detect assymetry, keen ears to differentiate sounds elicited by percussion, and methodical investigation of all symptoms, both subjective and objective. The result was, his diagnosis having been made, he next carefully, and with abundant time before him, considered the advisability of operative intervention.

In reviewing the field of abdominal and pelvic surgery, it would seem that surgical limitation is most often exceeded and mortality unnecessarily increased in operations for the following diseases: General septic peritonitis, extensive carcinoma of the ovaries, uterus and intestine, and operations on the gall-passages in long-continued and profound cholemic patients without adequate preparation. He protested against the too frequent practice of operating in these affections. As to laparotomy in cases of general diffuse septic peritonitis, with irrigation and drainage, reports of such cases have appeared in literature from time to time, but the mortality up to the present time of such operations in exaggerated types of the disease is so great, in his opinion, as to make it an unwarranted procedure. He is strongly impressed with the belief that the successful cases reported have been cases of beginning general peritonitis, or of wide-extending, yet circumscribed peritonitis. In closing, the author impressed the importance of carefully preparing cholemic patients before subjecting them to operation, with a view of lessening mortality. Another class of cases amenable to the same course of preliminary treatment are those of inefficient renal action.

EXCISION OF THE EXTERNAL CAROTID ARTERY IN CASES OF INOPERABLE MALIGNANT DISEASES OF THE FACE.

DR. WILLIAM P. NICHOLSON, Atlanta, reported two cases in which this operation had recently been done. The first case was a sarcoma of the nose, which began apparently as a polypus about eight months before. This was removed several times, but recurred promptly after each removal. When seen a few weeks before the operation this had extended sufficiently to completely obstruct the nose and cause great pain by constant pressure. At the time of operation this had progressed in a few weeks only so that the growth pressing under the orbit had forced the right eye out of position, and there had been also an extension on the forehead on the left side. The patient suffered intense pain, which required the constant use of morphin for its relief. The right common carotid was excised on October 3, and the wound healed promptly. The enlargement on the left side of the forehead broke down, and the large abscess was opened a few days after the operation. The pus from this, or the discharge from the nose, set up a violent ophthalmia, from which the patient suffered for a week or ten days. Two weeks from the day of the first operation the carotid on the left side was removed, and very soon the symptoms improved in every respect, the patient was relieved of suffering, and the growth not only checked, but it apparently began to recede with the prospects of a material improvement in his condition.

The second case was one of inoperable sarcoma of the upper jaw of three months' duration, and of very rapid growth. In this case the interval between the operations was longer than in the first, on account of the occurrence of a severe secondary hemorrhage on the seventh day, which was due to tying the vessel too close to the bifurcation. The first operation in this case relieved the patient of all symptoms caused by the rapidly increasing pressure, and the growth apparently subsided materially. The second operation had not been performed long enough to give much idea as to how much permanent decrease there would be in the tumor.

He had performed various operations on the external carotid artery in cases of malignant diseases, having tied the vessel twenty-six times, four of these being cases of double ligation. The operation had not been accompanied by any mortality. Little could be accomplished by simply ligating even both carotids, because the circulation was re-established so rapidly that the nutrition could not be cut off with any degree of permanence. The operation of excision, as recommended by Dawbarn, seemed to be the only procedure that offered any hope, and while this would not perhaps produce much permanent effect, yet it seemed undoubtedly true that the lives of patients could be much prolonged and their sufferings greatly lessened. The operation was one of considerable magnitude, and dealt with structures of great importance anatomically, yet the results demonstrated that there was comparatively little danger in the performance of it.

AUTOINTOXICATION FROM RENAL INSUFFICIENCY WITH OR WITHOUT DISEASE OF THE KIDNEYS.

DR. JAMES T. JELKS, Hot Springs, Ark., for years has made it a point to examine the urinary output for twenty-four hours of every patient who consults him. This has been a revelation to him, and therapeutics based thereon has enabled him to accomplish what he described as marvelous results. Abundant evidence was adduced to show that as the result of faulty elimination by the kidneys, without the presence of disease in these organs, patients may have vertigo, contracted capillaries, cold skin, especially of the extremities, so-called sick headache, which is now recognized as uric-acid headache, melancholia, palpitation of the heart, interrupted heart-beat, various forms of skin diseases, rheumatism, gout, hysteria, epilepsy, and even genuine insanity. Among the remedies used to correct this faulty elimination are squills, milk, rectal or hypodermic injections of normal saline solution, digitalis or its derivatives, sodium phosphates, sodium salicylate, Vichy water, etc. All of these were used in connection with baths, where it was possible to give them, and the patients were ordered to drink from one-half to one gallon of hot water daily. Twenty-five cases were detailed as having been treated along the lines mentioned, with the most gratifying results.

DR. GEORGE S. BROWN, Birmingham, made a supplementary report regarding a case of litholopaxy previously presented to the Association, and a supplementary report with reference to a case of vesicorectal fistula.

DR. JAMES A. GOGGANS, Alexander City, Ala., reported one case of strangulated femoral hernia in a woman 40 years of age; three cases of extrauterine pregnancy; one case of thoracotomy for empyema, and one case of ovarian cyst.

SOME LIFE-SAVING MEASURES IN OBSTETRIC WORK.

DR. R. R. KIME, Atlanta—Leaving out of discussion instrumental deliveries, Cesarean section, symphysiotomy, etc., the author considered as the most important life-saving measures saline infusions, medicinal remedies, serum-therapy, hydrotherapy and drainage. All of these topics were taken up and discussed in consecutive order. In cases of placenta previa and post-partum hemorrhage saline infusions or intravenous injections are of prime importance, not only to save life, but to lessen susceptibility of infection and hasten recovery.

PSEUDO-MEMBRANOUS ENTERITIS AND ITS RELATION TO ABDOMINAL SURGERY.

DR. FRANK A. GLASGOW, St. Louis, was the author of this paper. He called attention to this very common disease, and urged physicians to study the relations of it to appendicitis.

SOLID OVARIAN TUMOR.

DR. JOHN G. EARNEST, Atlanta, reported a case of solid tumor of the ovary.

HISTOGENESIS OF OVARIAN DERMOIDS.

DR. W. D. HAGGARD, JR., Nashville, gave a verbal abstract of a paper on this subject.

The following papers were likewise read and discussed: "Removal of Cystic Gall-Stones," by Dr. Howard A. Kelly, of Baltimore; "Osteo-Arthritis of the Spine," by Dr. Michael Hoke, of Atlanta; "Epi- and Hypospadias, With Special Reference to the Operative Treatment," by W. F. Parham, of New Orleans.

IRREDUCIBLE INCARCERATED RETROFLEXED GRAVID UTERUS.

DR. WILLIAM A. QUINN, Henderson, Ky., read a paper with this title, and reported the following case:

Mrs. S., a white woman, had had previously four normal labors. In her first there was a complete tear of the perineum. Her periods always had been normal and regular. She had never had a miscarriage. He saw the case about the middle of July in consultation with Dr. Dunn, the attending physician, who informed him that in his opinion it was an irreducible incarcerated retroverted gravid uterus. He stated that he and his colleague, Dr. Johnson, had carefully emptied the patient's bladder, and placed her in the knee-breast position; had exhausted their skill in efforts to replace the mass, but failed to do so. They then administered an anesthetic and tried replacement of the organ, but without success. On examining the patient, Dr. Quinn found the bladder enormously distended, reaching into the abdomen to a point about two inches above the umbilicus. It was emptied with difficulty by catheter, and a large, hard, unyielding mass, which completely filled the pelvic cavity, was found. The perineum having been previously torn, the tumor pressed down low on the pelvic floor. It was with difficulty that the index finger could be introduced into the vagina or rectum, and it was no easy matter to introduce a catheter into the bladder. The os was found flattened against the pubis and as high as the length of the vagina would let it rise, and could be reached with difficulty. The acute flexure was situated just above the internal os. The rectum was pushed against the sacrum until only soft ribbon-shaped feces could escape. The mass was found to curve very slightly from the arch of the pubis toward the promontory of the sacrum, under which it fitted snug and fast. On the most careful conjoined manipulation no elasticity or fluctuation could be made out. It seemed to be as unyielding as the hardest fibroid, and gave very much the same impression as does a large myoma which forms a perfect cast of the pelvis and becomes impacted. Medicine being of no avail, a spontaneous cure out of the question, and all efforts at relief by manipula-

tion having signally failed, resort to surgical interference was had. On August 3 a median incision was made, which exposed the uterus in extreme retroflexion, the fundus bearing hard down on the perineum, the organ resembling very much a tumor with a twisted pedicle. As the uterus could not be replaced it was lifted into the abdominal cavity. The tissues, which were softened and extremely vascular, had broken down under the operator's hands. The author concluded that if he closed and let the uterus and appendages remain with all of the necrotic tissue, the infection already existing would be increased, and death would undoubtedly ensue from septic peritonitis. Extirpation promised the best result, and this was done.

On examining the specimen the uterus was found to contain a fetus, the arrest of development of which seemed to have occurred between the fifth and sixth months of fetal life. The low fever, which had been present, continued for two or three weeks and delayed what would have been an unavoidably slow recovery, but the woman returned to her home in six weeks from the time of the operation, has since been able to attend to her household duties, and to take care of her children. He was not aware at the time of the operation that abdominal section had ever been advised or practiced before in cases of irreducible incarcerated retroflexed gravid uteri. The most recent works on obstetrics contain no mention of it.

In searching the literature the author finds that celiotomy has been done in these cases by seven surgeons, and said that to Dr. Mann, of Buffalo, belongs the credit of first doing celiotomy for this obstetric complication. Brief reports of the other cases found in literature were given.

Much to the regret of the members, Dr. W. E. B. Davis resigned the secretaryship, owing to the pressure of other duties, after having served the Association ably and efficiently from its organization to the present time. A resolution was offered and unanimously adopted, thanking Dr. Davis for his efficient services, tireless efforts, and faithful devotion to the interests of the Association during a period of thirteen consecutive years.

Officers elected for 1901: President, Dr. Manning Simons, of Charleston; vice-presidents, Drs. George H. Noble, of Atlanta, and L. C. Bosher, of Richmond; secretary, Dr. W. D. Haggard, Jr., of Nashville; treasurer, Dr. F. W. McRea, of Atlanta.

Richmond, Va., was selected as the place for holding the next annual meeting; time, third Tuesday in November, 1901.

Therapeutics.

LA GRIPPE.

Influenza is a disease that varies greatly in its effects on different individuals and which produces so many symptoms in so many different organs of the body that it is indeed difficult to formulate any special lines of treatment, and, as Yeo states, when a practitioner advertises that he has given potassium bicarbonate in five hundred cases without a death, and another that he has given salicin in one thousand cases without a death, they make statements that are worse than useless, because they are misleading. He, however, places quinin as the most deserving drug in the treatment of influenza, giving it in combination with potassium citrate and ammonia in effervescence, and in small or moderate—not large—doses, frequently repeated. Mosse, in the *Lancet*, has shown that the bacillus of influenza is unable to live in an organism in which quinin circulates.

Below are given other prescriptions as suggestions in treatment of the different complications which may arise:

℞ Hydrargyri chloridi mitis.....gr. iss | 09

Ft. pulveres No. vi. Sig. One powder every hour until there is a good bowel movement.

H. C. Wood, in *Philadelphia Medical Journal*, advises the following in la grippe:

℞ Antipyrini	gr. xv	1
Pilocarpinæ hydrochloratis	gr. ss	03
Tinct. aconiti	m. iii	2
Aquæ destil.	ʒiss	48

M. Sig. One tablespoonful, immediately followed by a hot general bath, or a footbath for ten minutes; then the patient, being covered in bed, one dessertspoonful in a glass of hot toddy, repeated, if no sweating occurs, in twenty minutes. When there is pain, if morphin does not disagree with the patient, one-sixth of a grain may be added to the mixture.

Heming, in "The American Text-Book of Therapeutics," advises the following:

℞ Salipyrini	ʒi	4
Glycerini	ʒiiiss	14
Syrupi rubi idæi	ʒi	32
Aquæ destil.	ʒiss	48

M. Sig. Shake well, and take a tablespoonful every fifteen or thirty minutes.

Salipyrin is obtained by the interaction between antipyrin and salicylic acid—57 parts of the former to 43 parts of the latter. It is soluble in 200 parts of cold water and 20 parts of boiling water.

LINIMENT FOR PAINS IN THE BACK AND LIMBS.

℞ Spts. chloroformi		
Tinct. aconiti		
Spts. camphoræ, āā	ʒss	16
Olei olivæ	ʒiiss	80

M. Sig. Apply with friction to the painful parts.

FOR THE PAIN.

℞ Codeinæ	gr. iv	25
Phenacetini		
Salol, āā	ʒi	4
Sodii bicarb.	ʒss	2

M. Ft. chartulæ No. xii. Sig. One powder every four hours.

℞ Quininæ hydrobromatis	gr. xxxvi	2 36
Salol	gr. xxx	2
Codeinæ	gr. iv	25

M. Ft. capsulæ No. xii. Sig. One capsule every three hours.

℞ Sodii salicylatis	ʒiss	6
Liq. ammon. acetatis	ʒii	64
Aquæ camphoræ, q. s. ad	ʒvi	192

M. Sig. One tablespoonful every three hours when the first symptoms appear.

COUGH IN INFLUENZA.

℞ Sodii benzoatis	ʒi	4
Bromoform	m. x	66
Syr. tolutani	ʒi	32
Syr. lactucarii	ʒiii	96

M. Sig. One tablespoonful every three hours.—*Med. News.*

THE FEVER IN INFLUENZA.

℞ Quininæ salicylatis	gr. xlv	3
Phenacetini	gr. xxxiv	2 25
Camphoræ	gr. vi	4

M. Ft. capsulæ No. xv. Sig. One every four hours.
—Baccelli.

INFLUENZA WITH NAUSEA.

℞ Morphinæ sulphatis	gr. ss	03
Acidi hydrocyanici dil.	m. viii	5
Spts. chloroformi	ʒiss	6
Aquæ menthæ viridis, q. s. ad	ʒiss	48

M. Sig. One teaspoonful every three or four hours, where there is nausea and troublesome cough, but when the bronchitis is not severe. —*Med. Progress.*

TO RELIEVE THE MUSCULAR PAIN AND CAUSE DIAPHORESIS.

℞ Sodii salicylatis	ʒi	4
Ext. nucis vomicæ	gr. iii	20

M. Ft. capsulæ No. xii. Sig. One capsule every four hours.

FOR THE COUGH.

℞ Liq. morph. hydrochloratis		
Acidi hydrobromici dil., āā	ʒi	4
Spts. chloroformi	m. iii	2
Tinct. limonis	ʒi	4
Syr. simplicis, q. s. ad	ʒiss	48

M. Sig. One teaspoonful for the cough, and repeat in two hours if necessary.

CATARRHAL PHARYNGITIS OF LA GRIPPE.

℞ Morphinæ sulphatis	gr. vi	36
Acidi carbolici		
Acidi tannici, āā	ʒi	4
Glycerini	ʒi	32
Aquæ destil., q. s. ad	ʒii	64

M. Sig. Use as a spray night and morning. —Ingals.

PULMONARY COMPLICATIONS IN LA GRIPPE.

℞ Ammonii chloridi	ʒii	8
Apomorphinæ hydrochloratis	gr. i	06
Mist. glycyrrhizæ comp.		
Syrupi simplicis, āā	ʒiss	48

M. Sig. A dessertspoonful every two hours.—H. C. Wood.

FOR THE CORYZA.

R. Thymol
Menthol, āā ..... gr. i | 06
Liq. albolene ..... ʒi 32
M. Sig. Use as a spray in the atomizer three times a day.

INSOMNIA IN LA GRIPPE.

R. Chloralamid ..... ʒi 4
Ft. chartulæ No. iv. Sig. One at bedtime in cold water.

R. Sulphonal ..... ʒi 4
Ft. chartulæ No. iv. Sig. One powder in hot water two hours before going to bed.

STOMATITIS OF LA GRIPPE.

R. Acidi lactici ..... gr. xxxvi 2 | 36
Spiritus menthæ pip. ..... m. x | 66
Aquæ destil. ..... ʒviii 256
M. Sig. Wash the mouth twice daily with this lotion.

If there is suppuration in the tonsillar crypts apply the following:

R. Acidi salicylici ..... gr. x | 66
Alcoholis, q. s. ad., to dissolve
Glycerini ..... ʒiss 48
Aquæ destil. ..... ʒii 64
M. Sig. Use as a gargle twice daily.—*Presse Médicale.*

INFLUENZA IN CHILDREN.

R. Sodii benzoatis
Salol
Acetanilidi, āā ..... gr. xxiv 1 | 5
Caffeinæ citratæ ..... gr. iv | 25
M. Ft. chartulæ No. xv. Sig. One powder every three hours to a child 6 years of age; if the pain is severe and the child is kept awake, add 1/12 grain of codein sulphate to each powder.

If a mixture is desired, give the following:

R. Sodii benzoatis
Antipyrini
Liq. ammon. acetatis
Syr. scillæ comp., āā ..... ʒii 8
Syr. althææ ..... ʒss 16
Aquæ anisi, q. s. ad. ..... ʒii 64
M. Sig. One teaspoonful every three hours to a child of 6 years. —H. B. Sheffield.

Rigidity of the Perineum.

R. Spts. etheris ..... ʒi 32
Spts. chloroformi ..... ʒii 64
Eau de cologne ..... ʒi 32
M. Sig. For external use to the perineum.—Southworth.

To Prevent Bedsores.

R. Aluminis
Sodii chloridi, āā ..... ʒss 16
Aquæ
Alcoholis, āā ..... Oi 512
M. Sig. Apply locally night and morning.
—Forbes: *Maryland Med. Jour.*

To Promote Uterine Contractions.

R. Quininæ sulphatis ..... gr. xi 2 | 66
Acidi sulphurici arom., q. s. ft. sol.
Syrupi zingiberis ..... ʒi 32
Aquæ, q. s. ad. ..... ʒii 64
M. Sig. Initial dose, one tablespoonful; afterward, two teaspoonfuls every four hours. —Ringer.

Epicarin in Diseases of the Skin.

The *Medical News* speaks at some length concerning this therapeutic agent. It is a combination product of kresolin and betanaphthol, and is very soluble in alcohol or ether. It is slightly yellowish in color and non-toxic in character.

Kaposi employs it in the following combination:

R. Epicarin ..... ʒiiss 10
Spts. vini gallici ..... ʒiii 96
Spts. lavandulæ ..... ʒvi 24
Glycerini ..... ʒiiss 10
M. Sig. Use as a wash two or three times daily.

In scabies it is best applied in a 10 per cent. ointment with vaselin or lanolin. For scabies, eczema squamosum and herpes tonsurans the above combination is very applicable.

Hydrogen Dioxid in Tinea Favosa.

Dr. Simonelli states, in *Merck's Report*, that he has successfully employed hydrogen dioxid in three cases of tinea favosa. The application was made by saturating compresses in dioxid of 10 to 12 per cent. strength. Epilation was required only once and the patients made a much more rapid recovery than is usual by any other method.

Quinin in Carcinoma.

Jaboulay's experience with three patients who had inoperable carcinoma and whom he treated with hypodermic injections of .5 to 1 gm. of quinin hydrochlorate daily, indicates that possibly he is correct in his assumption that the parasite of cancer may belong to the protozoa group. As reported in the *Semaine Médicale*, the recurring neoplasms were all reduced in size, the cerebral and other complications were cured, and marked relief was experienced in each case. Insomnia that had persisted for six months was completely cured in one case.

Ichthyol in Scarlet Fever.

The *Maryland Medical Journal* contains the following from the pen of A. Seibert, in *Jahrbuch f. Kinderheilkunde:*

In fifty-six cases of scarlet fever inunctions of a 5 to 10 per cent. strength of ichthyol in lanolin have been employed with the following results:

1. The edema of the skin is relieved.
2. The itching is relieved.
3. The fissures and secondary erysipelatous infections are prevented.
4. The temperature falls after a few hours, 1 or 2 degrees.
5. Restlessness and insomnia are avoided and postscarlatinal nephritis prevented.
6. The ichthyol renders the scales less infectious.

Salol in Diabetes.

A report of the value of salol in the treatment of diabetes, by Dr. Zandy, may be found in *Merck's Report*, in which he states that when his patient was seen for the first time he was passing 250 gm. of sugar daily in three or four quarts of urine. He placed the patient on the proper diet and administered alkalies, which diminished the daily output of sugar to about 40 gm., at which point it remained stationary until he commenced the adminstration of salol. The patient was given four daily doses of 1 gm. each for four days, at the end of which time only a trace of sugar could be found. And a discontinuance of the drug was followed by a slight increase of sugar, after which there was complete and permanent absence of sugar in the urine, despite the gradual deviation from the restricted diet. The patient was seen nine months later and the urine contained no sugar, although he had paid no attention to diet in the meantime.

Medicolegal.

Ten Thousand Dollars for a Boy's Foot.—The Court of Appeals of Kentucky holds, in the case of the Chesapeake & Ohio Railway Company vs. Davis, that, while a verdict of $10,000 is large for the negligent injury of a boy 9 years of age, rendering the amputation of one of his feet necessary, it is not an excessive award of damages for the pain and suffering endured and the impairment of his ability to earn money by reason of the injury.

County is Not Liable for Not Establishing Hospitals.—In the case of Bell vs. the Commissioners of Johnston County, the Supreme Court of North Carolina holds that no action for damages for personal injuries will lie against county commissioners in their corporate capacity, or, in other words, against the county, for their failure to establish hospitals, under section 707 of the state code, which empowers boards of county commissioners to establish public hospitals for the county in cases of necessity.

Risk of Frostbite Assumed.—In reversing, in the case of the Yazoo City Transportation Company vs. Smith, a judgment which a deckhand obtained for a loss of three fingers from frostbite, the Supreme Court of Mississippi declares that a laborer must be presumed to have knowledge, equal if not superior to his employer's, of the effect of cold upon his feelings and person. His own temperament is better known to him than to any one else, and his own sensations sound the alarm to himself. Men are presumed to have ordinary common sense, until the contrary is shown, and the law, the court holds, does not speculate on degrees of knowledge about weather.

Seventeen Hundred Dollars too Much for Fracture.—The Supreme Court of Wisconsin says that the evidence in the case of Collins vs. the City of Janesville tending to show permanent injury was, at best, very doubtful. The injury was a simple fracture, in a girl thirteen years of age, of the fibula,

which reunited in the ordinary course and under ordinary surgical treatment, so that, in the opinion of a majority of the medical experts, there had been a complete recovery. To this, it adds that the plaintiff walked with no limp, or, at least, with one not ordinarily perceptible, and only complained of some pain in rainy weather. The jury awarded her $2,500 damages. The trial judge demanded that $800 be remitted therefrom, and, this being agreed to by the plaintiff, entered judgment for $1,700. But the supreme court holds the amount still excessive, declaring that it sees nothing to justify so large a recovery.

Can Not Ask Experts What Should be Extent of Injuries.—The Supreme Court of Illinois holds, in Hellyer vs. People, a homicide case, where the defense was that the deceased had been killed by being struck by a railroad train, that it was error to ask physicians who had seen the bodies of persons who had been killed by being struck by moving trains whether it would be possible, in their opinion, for the death of such person to have been caused by being struck by a train of certain weight and speed without producing other external and internal injuries than those described in the case. The supreme court condemns the evidence as being negative in character, anticipating the defense, and not being competent as opinion or expert testimony. The subject of the inquiry, it goes on to say, was a matter of common observation, upon which the lay or uneducated mind is capable of forming a correct judgment. And in regard to such matters experts, it declares, are not permitted to state their conclusions. In questions of science their opinions are received, for in such questions scientific men, it says, have superior knowledge, and generally think alike. Not so in matters of common knowledge.

Expert Testimony Based on Supposed Previous Habits.—The Court of Appeals of Kentucky says that it can perceive no error in the rulings in the homicide case of Bishop vs. Commonwealth, where the testimony of one physician was excluded entirely, and another one was not permitted to answer a question in regard to a hypothetical case. Each was asked if he had any experience in the treatment of persons suffering from excessive smoking of cigarettes or drinking of whisky, and responded in the affirmative. But for all that appeared in the record, neither of them had ever seen an insane person. Under these circumstances, neither doctor, the court holds, qualified as an expert upon the subject of insanity. Moreover, had the medical witnesses been qualified as experts upon the subject, the court says that it thinks that the same rule should be applied to expert testimony based solely upon a supposed case of previous habits which might tend to produce mental unsoundness as is applied to the introduction of testimony showing an ancestral taint as a fact tending to produce the same result, viz., that it can not be introduced, in the absence of other independent testimony, to show that the defendant was himself insane at the time of the killing.

Dying Declarations Not Barred by Physician's Hope.—Declarations made by one actually in a dying condition, and conscious of the fact, the Supreme Court of Georgia holds, in the case of Wheeler vs. State, are admissible as dying declarations, notwithstanding the fact that a physician, either before or after such declarations were made, informed the declarant that there was a chance for him to recover. For example, in this case, certain alleged dying declarations were made both before and after a physician informed the declarant that there was a chance for him to recover if an operation was performed. The evidence, however, showed that the declarant stated, at the time he made the declarations, that he was going to die, and that there was no chance for him, and that he did die within less than a day thereafter, despite the surgical operation. Under these circumstances, the court thinks that the declarations were properly admitted in evidence, as being prima facie dying declarations; the jury being instructed to consider them as evidence in the case only in the event that they believed the declarations were made in the apprehension and immediate prospect of death, and in the article of death.

Regulation of Sale of Proprietary Medicines.—The Supreme Court of Illinois, in Noel vs. People, holds unconstitutional so much of the pharmacy act of the state as restricts the sale of patent and proprietary medicines and domestic remedies by any other person than a registered pharmacist. It is unquestionably true, it says, that the state has as much right to regulate the sale of patent and proprietary medicines and domestic remedies as it has to regulate the sale of any other kinds of medicines and remedies. But such medicines and remedies are generally put up in sealed packages, in which form they can as well be sold by any person as by a registered pharmacist. True, it was contended that registered pharmacists are more likely to know the qualities of these patent medicines than other persons who are not registered pharmacists. But the court's answer to that is that registered pharmacists will be as apt as other men to sell such patent medicines as there is a public demand for, when they are relieved of all responsibility for the character of such medicines, and are not required in any way to guarantee their character or adaptability to the cures which they claim to effect. So it concludes that the public health is not protected by limiting these sales to registered pharmacists, who make no examination of what they sell, and hence holds that the monopoly conferred on them by this portion of the pharmacy act is unconstitutional. It also condemns the act in so far as it confers upon the board of pharmacy the power, in its discretion, to issue permits to persons, firms or corporations engaged in business in villages or other localities, empowering them to sell the usual domestic remedies and proprietary medicines under such restrictions as the board may deem proper. A law which thus invests any board or body of officials with a discretion which is purely arbitrary, and which may be exercised in the interest of a favored few, the court holds, is invalid. However, while the court for these reasons holds the pharmacy act to be invalid in the respects pointed out, it yet holds it to be valid, so far as it applies to persons retailing, compound or dispensing drugs, medicines or poisons where the person so retailing has at the same time, put up or prepared or compounded the drugs or medicines, so sold by him.

Foreman Not Authorized to Employ Physician.—The Court of Appeals of Kentucky holds, in the case of Godshaw vs. J. N. Struck & Co., that a foreman, as for example one of workmen engaged in the construction of a building, has no implied authority to employ a physician to attend an injured workman. It says that to support a contrary contention it was referred to a number of cases decided by courts of other states, which related to the employment of a surgeon by some officer of a railroad to administer to an injured employee or passenger in certain cases, by reason of special circumstances. But it points out that railroad companies occupy a peculiar position with reference to such matters, and that it is of common knowledge that they habitually and regularly employ surgeons and physicians in connection with the conduct of their roads. Then, several cases were cited where it was sought to hold manufacturing companies liable on the same principle that the emergency would authorize it. However, in each of those cases the employment of the surgeons was made by the general business manager of the company or the general superintendent of the company, and the court does not think that such a case as this one of a foreman could be brought within the rule laid down in any of these cases. Moreover, it says that it was referred to no cases where it was held to be within the duties of the manager of a factory for either an individual or corporation to employ physicians or surgeons for employes. And it declares that it is not prepared to hold as a matter of law that the employment of physicians or surgeons for injured employees come within the scope of the duties of a general manager of an ordinary manufacturing business. In other words, it seems to it that the rule which it was sought to have applied in this case is confined exclusively to railroad companies, and, generally, in cases which involve some act of negligence on the part of the company which occasioned the injury. It also make the point that the services sued for were not confined to the immediate emergency, but lasted during a period of several months. Besides, some importance is attached to the fact that the employers sought to be charged resided all the while in the same city, and only a short distance from where the physician

suing lived, and that it would have been very easy for him to have inquired as to the alleged authority of the foreman to act for them. Nor, it holds, could there be anything like ratification by them so long as they knew nothing of the alleged employment. Usually, too, the court says, an injured employee procures and pays for his own doctor, and if his employer can be made liable for his injuries he recovers this sum, with other damages. It also remarks that in this case no necessity was shown why the employers should have selected the physician to treat the injured man during the long period of his confinement, as it did not appear that he lacked friends or relatives who were both willing and able to do so for him.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, November 24.

1 *Conveyance of Yellow Fever Infection. J. O. Cobb.
2 *The Occurrence of Malta Fever in Manila. Richard P. Strong and W. E. Musgrave.
3 History of a Case of Removal of Retro-bulbar Lymphosarcoma with Preservation of Normal Vision. Charles A. Oliver.
4 Traumatic Aneurysm of the Left Internal Carotid Artery; Death; Autopsy. Burton S. Booth.
5 A New Aseptic Ether and Chloroform Inhaler. Ernest La Place.
6 A New Phimosis Forceps. W. T. Baird.

Medical Record (N. Y.), November 24.

7 *On Apparent Tumors of the Abdomen. Max Einhorn.
8 *Myasthenia Gravis with Clinical Report of Case. Sanger Brown.
9 Notes on Typhoid Fever, with a Report of Fifteen Cases. D. E. Keefe.
10 *The Value of Thermal Carbonated Saline Baths in Gynecology. S. W. Bandler.
11 Simple Method for Writing Prescriptions for Children. Max Huhner.
12 A Method for the Determination of Eye Defects in School Children, with a Report of Seventeen Hundred and Forty-seven Examinations. Louis C. Deane.

New York Medical Journal, November 24.

13 *Rational Physical Training for Women. (Concluded.) George A. Saxe.
14 *The Etiology of Eczema, with Reference to Recent Views as to its Parasitic Origin. (Concluded.) L. Duncan Bulkley.
15 *Post-Operative Hemorrhage. A. H. Cordier.
16 *Spasmodic Wry-Neck and Its Treatment; Report of Two Cases with Recovery. William M. Leszynsky.
17 *The Pathology, Diagnosis, Special Prophylaxis, and Treatment of Tuberculosis of the Middle Ear. Seymour Oppenheimer.

Medical News (N. Y.), November 24.

18 *Edema Bullosum Vesicæ. Frederick Bierhoff.
19 *The Operative Treatment of Ugly Ears. John B. Roberts.
20 The Hydriatic Treatment of Tuberculosis. (Concluded.) J. H. Kellogg.
21 Absorption, Motility and Digestive Power of the Stomach. A. E. Austin.
22 *The Nature Treatment of Tuberculosis. R. O. Beard.

Boston Medical and Surgical Journal, November 22.

23 *Diphtheria Bacilli in Healthy Throats and Noses, with Report of Cases. Francis P. Denny.
24 *Chronic Diffuse Interstitial Nephritis. Charles J. Enebuske.
25 A New Spinal Jacket. Edward A. Tracy.
26 *Some Observations on Renal Casts. Walter E. Tobie.

St. Louis Medical Review, November 24.

27 *Post-Operative Hemorrhage. A. H. Cordier.
28 *The Clinical Value of Purgative Waters. Edwin Rosenthal.

Cincinnati Lancet-Clinic, November 24.

29 *Carcinoma of the Stomach from the Standpoint of Diagnosis in Our Daily Practice. Henry Ward Bettmann.
30 *Uterine Displacements and Deviations. Charles L. Bonifield.
31 Amputations in Children. James G. Grafft.

American Practitioner and News (Louisville, Ky.), November 1.

32 An Atypical Case of Typhoid Fever with Intestinal Perforation; Operation; Recovery. B. A. Allan.
33 Report of Four Cases of Mastoid Abscess. M. F. Coomes.

Virginia Medical Semi-Monthly (Richmond), October 26.

34 Mutual Relation of the Profession and the Public. John N. Upshur.
35 *Renal Calculi, with Report of Cases. Stuart McGuire.
36 Remarks on the Pathology and Symptomatology of Intracranial Conditions Complicating Suppuration of the Middle Ear. John P. Davidson.
37 Papilloma of the Vocal Cords—Report of Five Cases. W. L. Bullard.
38 Subarachnoid Injection of Cocain Muriate for Surgical Anesthesia in Operations Below the Diaphragm. Hugh M. Taylor.

Annals of Otology, Rhinology and Laryngology (St. Louis), August.

39 *Tertiary Syphilis of Nose. Robert Levy.
40 *Recurring Parotitis in a Healthy Child Persisting for Ten Years. Fayette C. Ewing.
41 A Case of Pneumococcic Perisinusitis. Edward Fridenberg.
42 A Tubular Septum Saw. Sidney Yankauer.
43 A Peculiar Enlargement of the Turbinals. C. R. Linhart.
44 Contribution to the Study of Larval Tuberculosis of the Three Tonsils. F. Baup.
45 A Critical Review of the Literature of Mastoid Disease and Its Complications. Seymour Oppenheimer.

Iowa Medical Journal (Des Moines), November 15.

46 Pruritus Ani. R. D. Mason.

Colorado Medical Journal (Denver) October.

47 *Reminiscences of a Physiologist. Michael Foster.
48 The Prevention of Puerperal Septicemia. H. G. Wetherill.
49 *When Is Contract Practice Unethical? Will B. Davis.

American Journal of Obstetrics (N. Y.), November.

50 *The Education of the Laity upon Sexual Matters: When Shall They Be Taught, and to What Extent? Rufus B. Hall.
51 *A Contribution to the Surgical Treatment of Uterine Displacements. C. A. L. Reed.
52 *Notes of Four Cases of Perforated Gastric Ulcer. Henry Howitt.
53 *The Diagnosis of Ectopic Pregnancy Before Rupture, Based on Eleven Cases. J. F. Baldwin.
54 *Erroneous Objections to Bilateral Inguinal Celiotomy and Shortening of the Round Ligament via the Dilated Internal Inguinal Rings, and Its Superior Ultimate Results in Simple and Complicated Aseptic Retroversions of the Uterus. A. Goldspohn.
55 *Postrectal or Presacral Growths. James F. W. Ross.
56 Observations Respecting Malignant Disease of the Pelvic Organs. Augustus P. Clarke.
57 *Acute Senile Endometritis. L. H. Dunning.
58 *Papilloma of the Vulva. Edward J. Ill.
59 *Simple Methods in Pelvic Surgery. John B. Deaver.
60 *Tubo-Ovarian Abscess and How Best to Deal with It. Edwin Ricketts.
61 *Fibroma of the Ovary. L. H. Laidley.
62 *Hernia of Diverticulum of the Chorion. L. H. Laidley.
63 Jaundice Following Abdominal Section. Henry D. Ingraham.
64 *The Ligature and Value of Dry Sterilized Catgut. J. H. Carstens.
65 *Treatment of Fibroids in the Non-Pregnant Uterus. E. F. Fish.
66 *Some Points Regarding Surgery of the Gall-Bladder. A. Vander Veer.
67 Some Contraindications of Intraperitoneal Use of Normal Salt Solution After Abdominal Section. Frank F. Simpson.
68 Pelvic Suppurations. Joseph Price.

Bulletin of the Johns Hopkins Hospital (Baltimore), October and November.

69 *Private Hospitals and Their Management. Joseph Price.
70 *On the Etiology of Tropical Dysentery. Simon Flexner.
71 *A Contribution to the Study of the Anatomy and Physiology of the Prostate Gland, and a Few Observations on the Phenomenon of Ejaculation. George Walker.
72 A Pin Imbedded in the Rectum. Otto G. Ramsay.

November.

73 *Aneurysm of the Aorta Treated by the Insertion of a Permanent Wire and Galvanism (Moore-Corradi Method). Guy L. Hunner.
74 *Obstetrical Paralysis, Infantile and Maternal. H. M. Thomas.
75 *Oxygen and Steam with the Vapors of a Special Inhalation Mixture in Pulmonary Diseases. Clement A. Penrose.

Medical Mirror (St. Louis), November,

76 Tuberculous Lesions from a Clinical Point of View. Edmund Owen.
77 Cancer of the Uterus and Its Treatment. R. Stansbury Sutton.
78 The Relation Between Gall-Stones and Appendicitis. A. J. Ochsner.

Medical Herald (St. Joseph, Mo.), October and November.

79 *The Curability of Inebriety by Medical Treatment. T. D. Crothers.
80 Some Experiences with Goat's Lymph. T. L. Putnam.
81 Contusion of the Brain. J. Cameron Anderson.
82 The Marcy-Bassini Operation for Hernia. C. H. Wallace.
83 Stab-Wound of the Liver—Enormous Hemorrhage—Hypodermoclysis—Recovery. Daniel Morton.

November.

84 How Can the Mortality of Cancer of the Uterus Be Reduced? Byron B. Davis.
85 Purpura Hemorrhagica. Clinton E. Sapp.
86 Puerperal Eclampsia. A. E. King.

87 Blood Examinations and Diagnosis. B. F. Gillmor.
88 Sarcomata of the Kidneys of Children. Arnold Jolly.
89 A Few Suggestions on the Treatment of Chronic Diseases. W. J. Bell.
90 A Contribution to the Therapeutics of Iron. Dr. Gelhorn.

Canadian Journal of Medicine and Surgery (Toronto), December.

91 *On Prolapse of the Stomach—Gastroptosis. Alexander McPhedran.
92 *Mental Sanitation. R. W. Bruce Smith.
93 A Case of Congenital Ptosis, with Associated Movements of the Affected Eyelid, During the Action of Certain Muscles. James McCallum.

Medical and Surgical Monitor (Indianapolis), November 15.

94 Colotomy. W. H. Link.
95 Some Medical Observations in the German Speaking Countries. J. F. Barnhill.
96 The Rationale of Static Electricity. S. H. Monell.

Texas Medical News (Austin), October.

97 Some Remarks on the Use of Dry Dressings to Wounds. Alex. W. Acheson.

Pacific Medical Journal (San Francisco), November.

98 *Is the Subarachnoidean Injection of Cocain the Preferable Anesthesia Below the Diaphragm? A. W. Morton.
99 Relations of Rats and Fleas to Man and the Plague. P. C. Remondino.
100 Defective Metabolism in Relation to the Mucous Membranes. H. D'Arcy Power.

Atlanta Journal-Record of Medicine, November.

101 Diabetes Mellitus. R. Alexander Bate.
102 Sulphate of Magnesia a Potent Remedy. N. F. Howard

New Orleans Medical and Surgical Journal, November.

103 Alcohol as an Etiologic Factor in Disease of the Nervous System. E. M. Dupaquier.
104 Report of a Case of Acute Phosphorus Poisoning with Demonstration of Post-mortem Findings. J. B. Guthrie.
105 A Note on the Medical Relief Work Done in Galveston After the Storm. Isadore Dyer.
106 A Case of Double Intraligamentous Cyst, with Remarks. C. Jeff Miller.
107 Complete Ablation of the Scapula. S. P. Delaup.
108 Salpingitis; Cystic Ovary; Adherent Omentum. J. Lee Burthe.

Hot Springs Medical Journal, October.

109 *The Association of Hysteria with Organic Disease of the Nervous System. Philip Zenner.
110 *Cancer of the Uterus and Its Treatment. R. Stansbury Sutton.
111 Obstructive Growths of the Pylorus, with Report of a Successful Case of Pylorectomy. J. E. Allaben.
112 Splenic Anemia Case: Blood-Cured. T. J. Biggs

Southern Medical Journal (La Grange, N. C.), October.

113 The Hand as an Index in Disease. Edward G. Price.
114 Treatment of Coughs. J. W. P. Smithwick.
115 Epilepsy. Suggestion in Treatment. J. J. S. Doherty.
116 Therapy of Tuberculosis. J. W. P. Smithwick.

Medical Times (N. Y.), November.

117 Insanity in Its Relation to Crime. Chauncey Adams.
118 Gynecologic Electro-Therapy. George Adam.
119 The Prevention of Blindness by the Adoption of Laws Compelling Hygienic Precautions. Walter B. Johnson.
120 The Value of Glyco-Thymoline (Kress) in the Local Treatment of Diseased Mucous Membrane. George A Hewitt.

AMERICAN.

1. **Conveyance of Yellow Fever Infection.**—Cobb questions the deductions of Reed as to the conveyance of yellow fever by mosquitoes and gives some facts which he thinks point to the conclusion that it may be otherwise conveyed. He is prepared, he says, to believe that not only mosquitoes, but bedbugs and fleas, may convey the disease, and he has not seen any reasonable cause for the suppression of the disease in certain sections of Georgia and South Carolina, which are practically free of mosquitoes, unless it were that this insect does convey the infection; but it is discouraging, he says, to think that the mosquito is the sole conveyor of this disorder, for we can not in that case expect to confine the disease to each infected house as we have hitherto tried to. Some infected mosquitoes would undoubtedly escape to other houses, but this does not seem to have been the experience of the Marine-Hospital officers, for they have succeeded in shutting up the disease in infected dwellings.

2. **Malta Fever in Manila.**—Strong and Musgrave report a case of fever which was somewhat misleading and was thought at first to be one of typhoid without intestinal lesions. The bacteriologic cultures at first were sterile, but on the fourth day a micrococcus morphologically and culturally like micrococcus melitensis was obtained. They have since seen another fever case where these same micrococci were found and which led to death at a later date. There were also found three cases which gave marked reaction with micrococcus melitensis in high dilution. One of these cases was diagnosed malarial remittent fever though no malarial plasmodia could be found. Neither of the cases gave the Widal reaction nor were any malarial parasites present. He suggests that there are many fevers which are difficult to place nosologically, and that this discovery may, therefore, be of advantage.

7. **Apparent Abdominal Tumors.**—The class of cases here described by Einhorn are not those due to swellings caused by prolapse of the whole liver, kidneys or spleen, but are swellings found either directly in the epigastrium or in the left or right hypochondrium and which have nothing to do with a neoplasm of any kind. The author avoided also in this class what are called "phantom tumors," due to a high degree of meteorism. The cases here described varied in size from that of a hen's egg to that of a man's fist, and light percussion always elicited a dull sound. Out of 6405 patients he found only 42 cases, 8 in men and 34 in women. Four cases are reported and nearly the whole number are tabulated briefly. They are due to an enteroptosis, and great emaciation and removal of certain abdominal organs such as the uterus, or vagina are also important factors in their development. The treatment is not to be applied to the tumor itself but to the original condition. The patient's attention must be distracted from its existence or the mind assured and sufficient nourishment must be prescribed and persisted in.

8. **Myasthenia Gravis.**—Brown reports a case in which he describes the general conditions known under this name. It is usually the result of some prostrating disease, sometimes preceding the affection, and anemia is often met with in women. The onset is usually gradual, though it may be sudden. The first symptom is usually a characteristic weakness of some of the muscles supplied by the cranial nerves, but it may begin in the extremities or in any of the functionally-grouped voluntary muscles. The most prominent symptom is the profound exhaustion on comparatively light exercise. The symptoms are generally bilateral, though there may be a variation between the two sides. Among the muscles that are affected may be mentioned those of the jaw and pharynx. Alterations of speech are almost invariably present; it becomes nasal, and the words grow more and more indistinct until the patient is forced to desist, from mere exhaustion. Inability to support the head is common, and if the respiratory muscles are involved and cannot recuperate by rest, fatal results may ensue. The symptoms may almost wholly and unexpectedly remit for a short time; the muscles react normally to electricity, but speedily become exhausted. Atrophy is never present in pure cases and the skin-reflexes and muscle-jerks are not materially disturbed. The sphincters are never disturbed and there are no trophic or sensory changes. Muscular inco-ordination has never been observed. Emotional excitement, cold weather and menstruation have been known to aggravate the condition. Though in the sixty cases referred to by Campbell and Bramwell seventeen came to autopsy, in only six was anything found which could possibly account for the symptoms. The author believes that the symptoms point to a toxic agency, and to the bodies of the peripheral motor neurons as the main point of attack of the toxin but of such a nature as to produce no demonstrable changes in the organic elements involved. Dr. Buzzard, of London, has shown that there is, in this disease, a typical temporary degeneration reaction, and this implies necessary functional integrity of the muscles and, at the same time, suspension of the functional activity of their peripheral motor neurons. The diagnosis is important; it is easy when the symptoms appear in the external ocular muscles or those of the tongue and mastication, and when the peculiarities of speech are manifest, but there is an infinite amount of hysterical conditions which give trouble. When it is far enough advanced to suggest bulbar palsy or polio-encephalitis, the course, the distribution of the weakness and the presence of muscular atrophy in these later conditions are significant. Out

of sixty cases twenty-three ended fatally. The average duration of the disease is one and one-half years. Death usually occurs from asphyxia, a fact which greatly increases the gravity of any pulmonary diseases in these cases. Some patients improve, however, for a while, and others recover permanently. Many drugs have been tried, but none have been found to have specific influence over the disease. Brown would like to see nitrate of strychnin tried hypodermically in 1/16 gr. doses. All general measures calculated to maintain the health, consistent with the symptoms, should be tried. If, finally, there is failure of muscles of deglutition and the stomach-tube has to be used it should be done with caution.

10. **Carbonated Saline Baths in Gynecology.**—The general effect of the bath is described by Bandler, and particularly the effects of the Nauheim baths or similar ones. They bring about, according to him, the following results: 1, slowing of the pulse and respiration; 2, increased oxidation; 3, increased diuresis; 4, a saving of phosphoric acid; 5, rest and protection for the heart; 6, regulation of the circulation and subsequent strengthening of the heart through increased tonus of the entire circulatory system, and through the removal of congestions; 7, an increase in the number of red blood-cells; 8, a building up of healthy tissue; 9, increased demand for nutrition; 10, a stimulation of the entire nervous system, especially the trophic centers; 11, the removal of congestion; 12, the resorption of exudates. Their value has been proved in amenorrhea, in insufficient development of the genitalia and muscular insufficiency of the ureters with or without chlorotic symptoms. Uterine catarrh depends on the lack of elasticity of the pelvic organs, and atony of the vessels is greatly benefited. In chronic metritis the bath induces a diminution of hyperemia, removes collateral circulatory disturbances and improves the general condition. Cases of chronic metritis after repeated abortions, or during the climacterium, should not be treated with strong saline baths, but as a rule the older the affection the more energetic the treatment. Nervous persons must be given graded treatment, and in these, as in anemic cases progress must be made slowly. As the entire energy is employed in preserving the balance between nutrition and force used in the performance of most necessary body functions, the slightest degree of over-stimulation is of decided injury. He gives briefly the results of experiments with cases, and says he believes pelvic inflammation of the adnexa curable by this method. Cases quite hypertrophic are decidedly benefited, all the patients gain in weight and strength, and in several the red blood-cells were constantly increased; the appetite, strength and general well-being were improved, as no other treatment he thinks could do it. One case of oophoritis was not either locally or generally improved. It was probably one of anatomical cystic change in which no benefit to local conditions could be expected. He says in conclusion: I believe that the results obtained justify me in claiming for the carbonated saline baths a power of resorption too valuable to be underestimated, a method which at the same time benefits the general state to a decided degree, and which acts by increasing the natural and effective functions of the body, and in toning up those pelvic structures which depend so decidedly for their elasticity and blood-supply on the condition of the body generally.

13. **Physical Training for Women.**—In this conclusion of his article the first part of which discusses the purposes and fundamental principles of physical training for women, Saxe describes the equipment of gymnasiums, the dress to be worn during gymnastic exercises, the poise of head and body in walking, breathing exercises, with reference also to the tone production of the voice.

14. **Eczema.**—Bulkley notices the factors in the etiology of eczema, such as sedentary occupation, and such as requires long standing and confinement in bad air, the factors of disease, such as exanthemata, exhausting diseases, malaria, accidents and surgical operations, and the exciting causes which he divides under two heads: internal and external. Of the former, defective nutrition appears to be among the most important though little appreciated. Excessive and defective diet is the cause of very many diseases, both where hereditary influences are at work and also where these are lacking. Defects also of clothing, bathing and exercise, defective assimilation and excretion, autointoxication and neurotic conditions are also mentioned. Of the external exciting causes he enumerates the atmospheric influences of heat and cold, especially as shown in infantile eczema, barometric disturbances, which seem to have an influence, and the seasons. Amongst mechanical irritants he mentions scratching and friction of clothing, etc. Among the chemical irritants he enumerates various anilin and other dyes, lime, arsenic, various local applications used medicinally, and among the vegetable irritants he lists poison ivy, arnica, thapsia, croton-oil, capsicum and even mustard. Disordered sweating and urine in contact with the skin will also produce eczema at times, and the parasitic causes are numerous, some of which are familiar. The influence of microorganisms proper, in the production of eczema, has been brought forward prominently by Unna, who holds that all eczema is due to microbic infection. The conclusions in regard to this question brought out in the discussion before the International Medical Congress last year, and given in the *British Journal of Dermatology*, are here reproduced.

15. **Post-Operative Hemorrhage.**—The conclusions of Cordier's article are as follows: 1. In diagnosticating post-operative hemorrhage, the operative history will aid much. 2. The symptoms of shock and those of hemorrhage are very similar. 3. In suspected cases the cutting of a single stitch in the incision will tell. 4. The surgery must be quick and decisive in these cases. 5. In cases in which bleeding is expected the tube should be used. 6. Large quantities of normal saline solution will save many patients. This should be used both *per rectum* and by injection into the veins. 7. Strychnin, belladonna, etc., will not control bleeding from a uterine or ovarian artery any better than from any other artery. 8. The surgeon should do what his surgical conscience tells him is right. Late researches in hematology make it appear that an internal concealed hemorrhage may be demonstrated by a careful blood-count. This, it is stated, will show a decrease in the red cells and an increase in the white. Similar symptoms accompany shock from various causes, such as internal hernia, etc., none of which produce a change in the red cells. If an operation was performed for the relief of an inflammatory process, this test would lose its value in part, as there would exist at the time of operating a leucocytosis. Saline infusions apparently increase the white cells at first.

16. **Spasmodic Wry-Neck and its Treatment.**—Dr. W. M. Leszynsky, of New York, reports two cases with recovery. Both patients were young married women aged respectively 24 and 36 years, in whom the condition had existed for seven months. The sternomastoid, trapezius, and splenius capitis muscles were involved. The treatment that led to a successful result was daily massage of the neck muscles, passive movements of the head and neck, and systematic voluntary exercises with and without resistance. He had resorted to the subcutaneous injection of atropin in twelve cases of clonic wry-neck, and believes that while atropin may prove exceedingly beneficial, nay, even curative in some cases, it is unsatisfactory in many others, and should only be utilized as an adjunct to absolute rest and general management. In his opinion, the principal therapeutic feature in every case should be the rational use of massage and the methodical education of the muscles and their co-ordinating centers. Such measures, in conjunction with rest in bed and general tonic treatment, should be thorough and persistently carried out before surgical intervention is considered. He concludes that the most important point is to treat these patients in the manner recommended, as soon as the disease is recognized. If this could be accomplished, fewer cases would advance to such a stage as to come within the legitimate field of surgery.

17.—See abstract in THE JOURNAL of November 3, p. 1172.

18. **Edema Bullosum Vesicae.**—Bierhoff describes cases in which he found the bullous edema of the vesical mucosa in cases of carcinoma, catarrhal cystitis of the vesical neck and gonorrheal disorders. The symptoms in each of the patients were those of the original condition, cystitis or urethritis, viz.,

abnormally frequent urination, with a varying degree of pain or tenesmus. He is not inclined to ascribe decided diagnostic value to this phenomenon, as it seems to accompany many different inflammatory or infiltrative processes.

19. **Ugly Ears.**—This paper of Roberts is intended to call the attention of the profession to the possibility of improving many auricular deformities with modern aseptic surgery. It is more worthy of attention, he thinks, because the operative treatment is free from risk and easily done, not often requiring confinement to bed or even absence from business pursuits. A lacerated or incised ear should be subjected to thorough sterilization and carefully sutured, bringing the parts together; fine silk is probably the best suturing material. After the removal of tumors or occurrence of sloughing from burns, frostbite or injury, much artistic skill is sometimes required, and it may be well to operate on the uninjured ear to make it correspond to its fellow. If material is needed to take the place of lost tissue it should be transferred from the neck, cheek, or transplanted from the hand, abdominal wall or thigh. Some deformities or distortions can be corrected by orthopedic means, and it has been suggested to imbed plates of platinum to give rigidity to flaccid parts. Very large ears can be reduced by excision of a wedge-shaped, or by removal of a crescentic, piece from the central portion. Sutures are then employed to sew the auricles close to the skull; bandages or spring pads are to be used to prevent tearing of the scar tissue by unexpected movements during sleep. Absent ears, from a want of development, may be represented by celluloid, papier maché or platinum constructions, or repeated plastic operations may successfully make some representation of the normal ear.

22. **Tuberculosis.**—The chief subject of Beard's paper is the necessity of curative resorts for consumptives under natural conditions by the reservation of parks, and especially the proposed Minnesota National Park.

23. **Diphtheria in Non-Diphtheric Cases.**—The occasional presence of the Klebs-Loeffler bacilli in the mouths of healthy individuals has long been known and certain authors have reported large proportions in persons where they were found. Denny has examined the cultures of 285 healthy individuals in the Brookline Board of Health Laboratory and in only seven found in the presence of diphtheria bacilli. This shows the comparative rarity of the condition in suburban communities living under good hygienic surroundings. He also examined cultures from 190 healthy boys in the Municipal School for Truants in West Roxbury, Mass., and in 16 of these had positive results. Fifteen of these 16 lived in a building where they slept in large open dormitories, and this accounts for the larger proportion, as five cases of diphtheria had occurred among the 120 boys sleeping in the dormitories. He says: 1. Diphtheria bacilli are seldom found in the throats of those who have not been exposed to diphtheria. 2. The bacilli are more frequently found in those who have been exposed, especially in persons living under poor hygienic condition or in institutions. 3. The conditions of institution life which favor the growth of the bacilli in healthy throats are the living together of a large number of persons in a limited air space. 4. Healthy individuals with virulent bacilli in their throats can spread the disease. They are just as dangerous as mild or convalescent cases of diphtheria, and ought, therefore, to be detected and isolated. 5. Cultures ought to be made among those who have been exposed to diphtheria: By physicians among the members of a family who have been exposed; by inspectors in the schools; by health officers under any circumstances when they think the disease is being or may be spread by such individuals.

24. **Chronic Diffuse Interstitial Nephritis.**—Enebuske gives an account of the general and special symptoms and the pathologic anatomy of this disorder with special reference also to its diagnosis and treatment. Formerly if the patient revealed a pulse of high tension with increased area of cardiac dulness, the second aortic sound accentuated with ringing quality, the urine of low specific gravity in increased amount with a trace of albumin and some few hyaline or fine granular casts it would have been justifiable to make the diagnosis of chronic interstitial nephritis. More reliable observations of recent date have induced some reserve in drawing conclusions, and he says albumin and casts are not always present, high-tension pulse and accentuated aortic second sound have been found to exist in advanced age, without any renal lesion, and the dislocated apex-beat with increased cardiac dulness may be simply the expression of idiopathic hypertrophy. The diagnosis can not be made with certainty from any single examination or from any formula of symptoms. It requires repeated examinations during a sufficient length of time to establish the persistence of sounds and its history and etiology must also be considered. The differentiation of chronic nephritis and secondary cirrhotic kidney must not be made before a consideration of all the facts in the history of the case has been learned and the persistence of symptoms noted. The prognosis is generally admitted to be unfavorable, though under good régime the patient may live for many years without apparent disturbance. When the heart fails, weakness, dyspnea, and dropsy will appear, at first amenable to treatment, but increasing later in spite of it. Severe edema appearing well on in the disease is a serious symptom, and there is a constant danger of uremic intoxication, which is often fatal. Nevertheless, even with severe symptoms—Cheyne-Stokes respiration, persistent vomiting and edema—the patient may live for months. Cabot and White have found from the Massachusetts General Hospital records 17 complete recoveries out of over 300 cases, and cases of eight or ten years' duration are not unusual, and there have been cases recorded up to twenty or twenty-nine years. The leading indications of treatment are to avoid irritation of the kidney and overwork of the heart. The diet must be adapted to the individual, over-eating avoided generally, both starchy and nitrogenous foods restricted and fats given generously, and the skin kept active. Physical overwork and mental worry should be avoided, but moderate exercise and recreation and rest encouraged. The several symptoms must be treated as they arrive. Iodid of potassium, nitroglycerin and chloral hydrate are important for their effect in reducing arterial tension. The leading indication in the early stage is to dilate the arteries and reduce tension, later when compensation is weak the indications are: 1, to increase the systolic stroke of the heart, 2, to relieve the venous hyperemia of the abdominal organs and the lungs when such exists, and 3, to relieve the edema. Experience with regulated gymnastics, according to Swedish and Nauheim methods, has shown their advantages. The author states in general that it may be said that, 1. Dilatation of the small arteries and reduction of too high arterial tension can be obtained in many instances by kneading and stroking of the muscles of the extremities with slow strokes and gentle but rather deep pressure. 2. Increase of the strength of the systolic stroke is obtained in many instances by simple movement of the joints of the extremities with gentle resistance, provided that the exertion is limited to that which the recuperative force of the heart can respond to. 3. Edema is relieved by centripetal strokings with gradually increasing pressure. 4. The resistive movement must be given while the patient is in a restful horizontal attitude or half reclining. 5. Passive movement must be attempted with caution in persons who have not good muscular control, because otherwise the effort of the patient to inhibit co-operative or resistive action either fails, or is so great an exertion in itself that the effect of a vigorous active movement is obtained instead of the passive one which is attempted.

26. **Renal Casts.**—Tobie finds from the examination of 200 cases taken without selection that there was albumin with casts in 29. This was the result from examinations for very minute qualities of albumin, otherwise the proportion of cases where casts occurred without albumin would have been very materially increased. Three influences, he finds, effect urinary examinations as regards casts. 1. The season, as bearing only to the extent that diseases affecting the kidneys were more common at certain seasons, notably winter and early spring. 2. Age is a very important factor. It is not generally appreciated how commonly the kidneys approach the cirrhotic condition in advanced life. Hyaline casts are frequently present. The question arises: What is their significance? 3. The occur-

rence of casts with cirrhotic constitutional diseases is very common, but the cause of their formation is not always clear, and he notices especially the frequency of hyaline casts in connection with carcinoma, and has been led to believe that some relation exists between them, and that the casts are the result of some impairment of nutrition or from poison products occurring in the cancerous formation. He says, as considering the importance attached to the kidney diseases by life-insurance companies, the means employed by their examiners is surprisingly lax, as microscopic examination is not the routine. While he would question very much the propriety of making the presence of casts the standard for refusal it should certainly constitute a reason for more searching examination regarding the eliminating functions of the kidneys.

27.—See also ¶15.

28.—See abstract in THE JOURNAL of October 20, p. 1050.

29. **Gastric Carcinoma.**—Bettmann reviews the symptoms which have heretofore been supposed to be characteristic of gastric ulcer and shows that the disappearance of hydrochloric acid from the gastric secretions is not a pathognomonic sign, neither is the presence of lactic acid. He thinks also that too much devotion to laboratory methods has worked harm as regards the diagnosis of cancer, and the search for positive signs has largely prevented proper attention to clinical observations and judgment which would be sufficient for a working diagnosis. While the absence of hydrochloric acid is a most constant and reliable symptom it would not do to depend on it, and more than once he has been led to a correct diagnosis by noting the steady decline in weight and strength all out of proportion to the gastric disturbance. Any excess of nutritional disturbance is always suspicious, great loss of weight especially, and also the rapid or gradual disappearance of HCl, and when a patient suffering from any gastric disease grows suddenly worse under proper treatment it is well to be on the guard for cancer.

30. **Uterine Displacements.**—After first describing the supports of the uterus, Bonifield notices the different types of deformities, upward, downward, backward, forward or to either side. Retrocession of the uterus seems to be due to shortening of the sacro-uterine ligaments and is usually accompanied by sharp anteflexion of both body and cervix and a slight descent of the whole organ. It may produce no symptoms or there may be those of anteflexion or of atrophic endometritis. If the condition requires treatment, curettage with subsequent massage and tamponade, if necessary, will relieve. Prolapsus uteri is a more serious condition. The indications for treatment are to remove the weight, and resort to supports. The weight can be reduced by replacing it and holding it in position temporarily with tampons, the patient being kept in bed. Curettage, and if necessary cervical amputation, are the more radical measures. The perineum and round ligaments are the only supports that can be restored by surgery, while the tone of the others may be improved by the use of strychnin, quinin and ergot. He has seldom been able to relieve complete prolapse without ventrosuspension. Deviations of the uterus are divided into versions and flexions. A certain amount of anteflexion is normal, and others such as posterior deviations are apt to occur where there is a hypertrophy of the organ. The surgical measures for these conditions are noticed, and he believes that Alexander's operation is as good as any. As regards retrodeviations he summarizes his views as follows: The treatment of this condition is not satisfactory; therefore, prophylaxis is of great importance. Many cases may be cured without surgery if well-recognized and time-tried methods be carefully and perseveringly used. Many more cases may be cured by a combination of these methods with repair of cervix and perineum. The Alexander operation may be done to avoid prolonged local treatment when the uterus is movable, and there is no prolapse of ovaries, or when reposition of the uterus pulls them into place. Adhesions and ovarian prolapse are best treated through an abdominal incision in the median line. When it is found necessary to remove the appendages, ventrosuspension is the operation to be done; when pregnancy is possible shortening of the round ligaments is preferable.

35. **Renal Calculi.**—The chief point made by McGuire is that the operation should be performed early where stone is found to exist in the kidney and not as a last resort. Early nephrolithotomy or incision of the healthy kidney for removal of the stone is not risky, gives permanent cure and has no tendency to mutilation. The opposite is the case with late operations involving nephrectomy or extensive removal of the diseased parts. The diagnosis of renal calculi is sometimes exceedingly difficult and they may cause death without their presence being detected. The position of the stone, of course, affects the symptoms and the passage of the calculus is, of course, of the greatest diagnostic importance. He reports four cases.

39. **Nasal Syphilis.**—Levy describes the symptoms, diagnosis, prognosis, and treatment of tertiary nasal syphilis. Its importance depends not only on local disorders it produces, but the possible implication of the important intracranial organs. The most common deformity is the perforation of the nasal septum, the cartilaginous or bony or both, but this may be caused by other factors also. The symptomatology as a rule may vary according to the nature and site of the lesion. Pain is not prominent. The diagnosis is of special importance on account of the value of early recognition and treatment. If the gummata can be absorbed before breakdown and the disorder checked before extensive ulcerative processes have occurred there is a chance to prevent the hideous consequences which are commonly observed. Three cases are reported, illustrating the difficulties of diagnosis. In some of these very striking mistakes were made by able men. If the disease is recognized early the chances for treatment are good, and mercury and potassium iodid should be actively administered, and properly constructed tubes inserted at the adhesions and the nose, if necessary supported by an artificial bridge. If necrosed bone is detached we should attempt its removal, provided it is well separated. There is some danger in too early or vigorous curetting. The sharp Volkmann spoon should, however, be used whenever necrosis has developed to such an extent that the sequestra can be removed with slight difficulty. Besides operative medicinal treatment, frequent cleansing with a warm 1 per cent. permanganate solution, the use of tincture of iodin and the insufflation of iodoform may be employed. Great importance is attached to constitutional treatment; as a general thing mixed treatment is advised. The effect of potassium iodid may be largely enhanced by the combination of other iodids. For the occurrence of deformity plastic surgery is a valuable resource in some cases.

40. **Recurring Parotitis.**—The author describes the case of his son, who has since the second year of his birth been subject to recurring attacks of swelling and inflammation of the parotid gland, apparently idiopathic, generally unilateral, appearing at intervals varying from a few months to a year and becoming less frequent as the child grows older. There has been no attendant enlargement of the lymphatics and no resulting hypertrophy. Fever has been absent. The general health has been good, no adenoids existing. Ewing reviews the literature and finds little that is parallel to this case and is inclined to consider it one of infectious disease of Steno's duct, causing swelling, by some microbe, the identity of which is unknown.

47. **Reminiscences of a Physiologist.**—The address of Sir Michael Foster before the Denver College of Medicine is an interesting account of the early experiences of this eminent physiologist and also calls special attention to the relation of physiology to medicine. He particularly mentions the embarrassment which physiology suffers from the English anti-vivisection laws and exhorts American physiologists not to allow themselves to be thus crippled. It is the duty of the whole medical profession to see that physiology is not hampered by any misdirected legislation.

49. **Contract Practice.**—Davis' article on contract practice maintains that it is a violation of ethics in a special sense; it nullifies the agreement made by local societies as regards fee bills and is a surrender of medical ethics to corporations. In a preliminary note the author states that it is a subject for

the local societies first to deal with, and until they take up the fight in earnest and prosecute it to its fullest extent only then should the AMERICAN MEDICAL ASSOCIATION take cognizance of it.

50.—See abstract in THE JOURNAL of October 6, p. 902.

51.—Ibid., September 29, p. 841.

52.—Ibid., p. 840.

53.—Ibid., p. 841.

54.—Ibid., p. 838.

55.—Ibid., October 6, p. 903.

57.—Ibid.

58.—Ibid., p. 902.

59.—Ibid.

60.—Ibid., p. 904.

61.—Ibid., p. 902.

62.—Ibid., November 17, p. 1275.

64.—Ibid., October 6, p. 903.

65.—Ibid.

66.—Ibid., September 29, p. 840.

69.—Ibid., October 6, p. 902.

70. **Tropical Dysentery.**—The subject of tropical dysentery as considered by Flexner and his associates has been already noticed elsewhere in THE JOURNAL. The present article is the Middleton-Goldsmith lecture delivered before the New York Pathological Society, April 12, and the views expressed are largely the same as those already published.

71. **The Prostate Gland.**—This article is an elaborate discussion of the anatomy and functions of the prostate. Walker shows what varying views have been held and describes elaborately the minute anatomy of the organ. He sums up his results as regards this in the following: 1. The prostatic muscle is derived from the longitudinal coat of the urethra, and the circular layer of the bladder. 2. Every lobule is surrounded by a circular and longitudinal coat, so arranged as to expel quickly and forcibly the secretion. 3. The prostatic muscle of the full-grown animal is independent of both urethra and bladder, and is only indirectly in connection with either. 4. The muscle is not disposed as to compress the urethra, or to act as a sphincter to the bladder. 4. The connective tissue is found in nearly the same amount as in other secreting organs; and is amply sufficient to give all the needed support to the gland, independent of the muscular elements. 6. A membrana propria is present in all cases, and consists of very fine connective-tissue fibers. There is a sheath of longitudinal elastic fibers around the prostatic urethra, from which the outer fibers diverge around the prostatic ducts in a figure-of-8 manner, and thence onward into the glandular substance. 7. Outside of the above-named elastic coat is an incomplete set of similar fibers, which also pass into the glandular substance. 8. In the gland substance a rich elastic mesh-work is seen lying under the cells, with a few extremely fine fibers in the membrana propria. 9. The glandular substance forms about five-sixths of the organ. 10. The cells are disposed in one layer; tall columnar-shaped; have a large amount of protoplasm, and a well-defined nucleus. In the same lobule, areas are present where the cells are entirely inactive. 11. Adenoid tissue is scattered at irregular intervals throughout the gland. As regards the functions, Walker finds that the prostate gland secretes a substance which causes motility of spermatozoa together with thinning of the fluid and describes the method of ejaculation. The conclusions as regards the latter are as follows: 1. The verumontanum does not prevent the entrance of the semen into the bladder. 2. The semen is prevented from passing backward into the bladder by the contraction of the so-called sphincter of Henle. 3. The prostatic ducts are so arranged that they eject their fluid directly into the outpouring testicular secretion, thus producing a homogeneous mixture. 4. The longtitudinal fibers of the sphincter membranaceæ urethræ dilate the outer half of the membranous, and a portion of the bulbous, urethra; and by this means draw the semen from the prostatic portion. 5. During the last act of ejaculation, the orifices of the prostatic and ejaculatory ducts are closed, and their respective fluids put on much tension; so that at the moment of relaxation a sufficient quantity of semen is poured in for the next emission. 6. The sphincter membranaceæ urethræ aids, not only in carrying the semen along the urethra, but helps very materially in expelling it.

73. **Aortic Aneurysm.**—The Moore-Corradi method of treatment of aortic aneurysm is described by Hunner, and five cases reported. He remarks that while the operation was devised by an Englishman anl modified by an Italian, it has been perfected and developed principally by Americans. The selection of the wire is of importance, and he finds that a silver alloy highly drawn, 75 parts of copper to a thousand, making a wire from an 8 to 27 standard gauge, is about the most satisfactory. He finds that the fibrin formation is more of a chemical than a mechanical process; silver being least resistant of all metals, transmits more of the given current for action on the blood. The sac should never receive both poles, or the current be so passed that the negative is in the sac, as this produces a friable soft structure while around the positive pole the clot is smaller, firmer and darker in color. He reviews the cases that have been published and discusses the dangers of the operation. The chance of a loop of wire entering the aorta is less than might be supposed, and the danger of an embolism breaking from the sac either during or after insertion is possible. The closing of the important vessels by the sudden filling with clot, puncture of the sac wall and the chances of failure because of the presence of a double sac are other possible or theoretic dangers among those considered. As regards the results of the method he finds that there are two cases at least where cure resulted; in many others, at least 39 per cent., there were amelioration and prolonged life, and there is one case still under observation with more or less chances of both. Clinical and post-mortem evidence point, Hunner says, to the efficacy of the method. Its great drawback is the difficulty of an accurate diagnosis. When we consider that none of the cases were selected as specially hopeful for operation, but almost all without exception considered hopeless, he believes we are forced to give the method careful consideration.

74. **Obstetrical Paralysis.**—Thomas describes and discusses the subjects of infantile and maternal obstetric paralysis, and as regards the former, it is probable that it is due to injury to the brachial plexus, and while it is difficult to explain at first sight how paralysis may result from such injury he suggests that since all the muscles receive fibers from several spinal roots their movements are represented particularly in one or two roots and that an injury of these special roots causes paralysis of those muscles most represented in them. It seems fairly well determined that the muscles affected in obstetric palsy have their chief representation in the 5th and 6th cervical roots and the experiments of Fieux and Schoemaker show that these roots are most apt to be injured during difficult labor whether it is by simple stretching of the plexus or squeezing between the clavicle and spinal column. What we need to clear up the question is careful post-mortem examination, which we at present lack. Maternal nerve injuries during labor are also discussed and the author reports two cases. Huenemann's theory that the paralysis resulting from trauma is nearly always due to pressure on the head and not to the blade of the forceps on the external popliteal nerve is modified by saying that, "The upper roots of the sacral plexus do not lie on the pyriform muscle, but against the bony wall of the pelvis, and are thus exposed to injury from pressure during certain difficult labors. It is the dorsal offsets of these roots which lie against the bone and which receive the chief injury. The external popliteal nerve is made up from these dorsal offsets, and therefore the paralysis is chiefly localized in the distribution of this nerve." Near the close of his paper he gives the classification of the puerperal neurites by Windscheit into, 1, those developing during pregnancy and probably due to some toxic action; 2, those due to peripheral infection; 3, those due to traumatic injury during labor; 4, those developing after perfectly normal labor from unknown causes, though toxic agents have been blamed. Thomas suggests the name puerperal neuritis for those cases classed in the fourth group. As re-

gards the other three groups we have only to consider the second and third, for there is no reason to distinguish the first group from cases occurring during pregnancy. For the second group he would suggest the name septic neuritis with the qualifying sub-title local and general. For the third, traumatic puerperal neuritis. He would also suggest that the cases of paralysis during labor be called obstetric paralysis and that the paralysis of the baby's arm be also qualified by the adjective infantile; thus we would have infantile obstetric and maternal obstetric paralysis.

85. **Inhalations.**—Penrose maintains that inhalation methods are the rational means for combating pulmonary affections. Internal medication should be used only as accessory. Change of air, mountain air, etc., which are in reality inhalation methods, are all right for those who can afford them, but for the masses this is practically impossible. He reports cases where he has given inhalation with steam or oxygen, and three cases where both these methods were combined. The good effects of oxygen in pulmonary disorders are raised to the maximum when combined with the heated vapors of his inhalation mixture, consisting of one dram of a mixture of creosote, oil of turpentin and compound tincture of benzoin in a pint of hot water, gradually increasing the creosote and oil of turpentin until a mixture of equal parts of each is combined, that is one ounce of each. Inhalations to be effective should last ten or fifteen minutes at least. Breathing exercises and general gymnastics are independent adjuncts. These do not upset the stomach like cough mixtures, and many can be induced to take them that would not take medicine.

79.—This article has appeared elsewhere. See THE JOURNAL of October 27, ¶28, p. 1115.

91. **Gastroptosis.**—McPhedran reports ten cases of gastroptosis and notices their cause; these, as he says, are nothing extraordinary, but are types of cases constituting the bulk of those met with. He believes the common cause of all is general debility and lack of tone. The diagnosis is not usually difficult; by inflating the stomach with air or carbonic oxid its outline can usually be determined by percussion. As regards treatment he prefers diet, medicines, abdominal massage and gymnastics. Electricity may be beneficial, an intragastric electrode being used. He is in the habit of directing massage and abdominal exercise to be taken morning and night after drinking one or two glasses of water. In this way many patients can wash their stomach out into the bowel. Change of scene is especially recommended; travel with due regard to avoidance of fatigue is of great benefit. Rest without pleasure is of little advantage.

92. **Mental Sanitation.**—Smith thinks that the public should be enlightened in regard to the nature of insanity, especially the influence of heredity, and should also be taught that the disease is insidious in its origin, and family and personal history should receive early and careful attention. Then there should be full recognition of the variability of persons to stand strains and work. Smith thinks that if the condition under which many cases originate were understood, many attacks might be avoided. An all-important matter is the study of child character and the mental development during the period of growth. The burdens of life should be adjusted to the capacity of the individual, so that overstrain is avoided, and public sentiment must be enlightened before any reasonable restrictive measures can be carried out.

98. **Cocainization of the Cord.**—Morton reports his experience with the new method of anesthesia and discusses its utility. He has had no bad results in any of his cases, which number, up to the date of the paper, ten. He uses a spray of ethyl chlorid before making the puncture, which dulls the pain and helps to keep the patient quiet. He believes this is the safest, quickest, cheapest and best anesthetic, but it will take thousands of cases to demonstrate its safety as compared with other and older methods.

109. **Hysteria.**—Zenner's article treats of the association of hysteria with organic nervous disease and the necessity of recognizing this factor in the case. He says that hysteria may be a possible complication of various serious organic troubles and may lead to unpleasant mistakes in diagnosis. There are some symptoms which are of special importance from the diagnostic point of view, for instance, the globus and concentric contraction of the visual fields in hysteria, and the hemianopsia, alterations of the deep reflexes, rigid pupils, and the reaction of degeneration for organic disease; but these are not altogether pathognomonic nor are any diagnostic tests absolutely reliable, hence the greater importance of careful and painstaking examinations in each case.

110—See abstract in THE JOURNAL.

FOREIGN.

British Medical Journal, November 17.

Varix. WILLIAM THORBURN.—The divergence of opinion in regard to varix being first noticed, the author discusses the etiology and reduces the possible common causes down to: 1, congenital enlargement of the veins, or weakness of their walls or valves; 2, obstruction to the escape of blood from the veins; 3, increase of influx of blood to the veins. From a clinical point of view we have also three main types: 1. Developmental varix in which a large trunk stands out from a limb whose tissues are otherwise healthy. This condition may be present in one or both limbs, but is often strictly unilateral and is most common in the left side. The internal or external saphena may be alone affected, or a large branch of it be selected. The special characteristic is the limitation of the disease and its selection of large channels. The subjects are often young adults, and the most marked cases occur in robust young men. Edema, eczema and ulceration are conspicuous by their absence, or if ulcers occur it is from atrophy of the skin overlying the large venous pouch, and is not of the type of the ordinary varicose ulcer. Hence almost the only secondary troubles are pain and risk of hemorrhage from injury of large veins. No external cause is discoverable. Pregnancy, constipation and the like are readily excluded, and the only factors found are heredity and the not infrequent association with varicocele, with enlargement of the veins of the arms and chest and occasionally nevus. The predominance of the male sex indicates a congenital origin. 2. We have a more common group of cases in which the varix is less sharply limited. It is bilateral excepting in its earliest appearance, and instead of single large swellings there is an almost proportionate swelling of veins of all sizes. The whole is apt to be slightly obscured in outline by some swelling around the vessels. This type is rare in the young; increases with age, and is more common in the female sex. Complications, such as edema or chronic ulceration, almost always develop ultimately, but we do not always find large thin-walled venous sacs, with their possibilities of profuse hemorrhage. In this case we can generally find a history of some obstruction; pregnancy may be referred to. The indications point to obstruction of the venous return as the prominent cause of the disease, and the term "obstructive varix" may be given to this class of cases. In the third form we find no varix of the larger trunks, but patches scattered over the surface and the venules only are enlarged and present themselves as somewhat radiating stellate or leash-like areas of dusky-red spots. The author considers these as probably a lesion of inflammation and prolonged hyperemia and describes the different hyperemic or inflammatory appearances probably due to long-continued increase in the blood-supply. In the lower limb it is not common, but may occur in association with inflammatory conditions, such as chronic ulcerations, exposure to heat, etc. The first type is the simpler. The second is more complicated and is also the cause of the most of the common complications of varix, such as ulcerations, edema, etc. The treatment is largely by the ligation of varicose veins, which relieves the region of the vessels involved and its best results are in the first form where one or two large veins alone were affected. In the obstructive type the probability of success will largely depend on the relative etiologic importance in each case of developmental area of obstruction. Varix of the large vessels existing after the first pregnancy indicates a marked developmental area and is fairly amenable to operative treatment. Diffuse varix with tissue congestion

and slow production is far less favorable. In conclusion he insists on the fact that the essential cause of varix is in nearly all cases a congenital venous defect, that such defect may, if severe, show itself spontaneously, although in comparatively mild and uncomplicated form, but slight deficiencies are only rendered prominent by superadded causes of congestion, and they unfortunately then are liable to be accompanied by other results.

The Lancet, November 24.

The Treatment of Sprains and of Some Fractures. A. H. TUBBY.—A sprain may be defined as a momentary disturbance of the normal relation existing between the opposing joint surfaces, but varying very much in degree. In any case some stretching of the surrounding parts must take place accompanied by hemorrhage and lymphatic effusion. In some cases the injury may cause only temporary inconvenience; in others the ligaments are ruptured, and in the severest a small portion of the bone is torn away, and in this case the injury is known under the name of sprain-fracture. Tubby notices the symptoms, the severe pain occurring shortly after the accident, then being apparently quiescent for a short while and later recurring with increase of swelling. The first stage is that of the injury associated with stretching and tearing of the parts and effusion of the blood. The second stage of pain after the quiescent period is due to tension and continued effusion of the blood. A great deal of damage is often sustained by the patient when he attempts to use a sprained joint during the quiescent period. This retards the period of convalescence. It is important in severe cases to make the diagnosis as clear as possible and the X-ray may be valuable in case of sprain-fracture. Even when no fracture has taken place there are frequently found about the joints some tender spots, as at the knee, where a spot is found just below the patella, and in the ankle in front of the external malleolus. These are first noticeable during the second period of pain and last for a considerable time and are due to rupture of the ligament in the first place and later to the persistence of roughened inflamed synovial fringes. If they should persist for some weeks or months after a sprain their usual cause is the formation of bands of adhesion. There are certain predisposing causes of sprains, malformations, club-foot, ankylosis of the knee, atrophy of the muscles, etc., which cause abnormal tension of the joints. As to treatment there are two methods, the mobile and the immobile. The principal thing to remember is what to do and the right time to do it. At first, the author recommends applications of cold water for a short time during the first two or three hours after the accident. The position is important as the joint should be put in the position of least tension and the potential cavity be lessened. For instance, the knee should be placed in extension and not flexion and the ankle at a right angle. Bandaging should be done in such a way as to relieve pressure over the point where it can cause more tension and tenderness. If the sprain is seen within the first two or three hours he insists on the following treatment: apply cold vigorously for a quarter of an hour, either by pouring on cold water, applications of ice or the spirit lotion, then wrap the joint around with lint or other material soaked in cold water and put on the cotton-wool in such a way as to relieve the pressure over the prominent points and place the joint in such a position that there is the least potential cavity for effusion to be poured into, and firmly bandage the part. During the period of quiescence the same round of treatment should be followed out where there are still some quiet effusions going on, but when the second stage of the pain occurs the right thing to do is to apply heat, as hot applications exercise a permanent effect on the duration and the amount of swelling. The most important question is the duration of the period of rest. It may be said that as a rule most joints are rested too long. On an average of three or four days after the swelling has subsided movement of the joint should be commenced. The direction of the movement is an important point so as not to interfere with the healing of strained and ruptured ligaments. When the amount of swelling is very great, hot applications and rest are not sufficient, and here properly applied friction comes into play. Together with rubbing, frequent applications of hot water and gentle movement should be carried out. If after ten days' treatment the thickening about the joints has not disappeared and there are still tender spots, use counter-irritants by blisters. In from ten days to three weeks a severe sprain ought to cease to give trouble and the patient be able to go about with comfort, but if at this time acute pain sets in with movement the only treatment is absolute rest. Six weeks is not too long a period to keep such a joint quiet. The mobile treatment of sprains can only be used in very slight cases and then with some misgivings. The author concludes his paper with the treatment of fracture about the elbow-joint and separation of the lower epiphysis of the femur.

Ten Cases of Enteric Fever in Which the Blood was Examined Periodically for Agglutinative Properties. WILLIAM G. SAVAGE.—From the results of a number of cases covering a considerable period the author finds a decided variation in the agglutinating power of the serum and in a number of cases of relapse, he notices that in all at one period or other before the relapse the blood reaction was very feeble or not at all. He says it does not follow, however, that all cases with feeble reaction, relapse, as his own experiences show, and definite rules can not be laid down, but he thinks we are perhaps justified in saying if the blood examination shows a well-marked reaction no relapse is to be anticipated, but if feeble, relapse may follow and is more liable if on previous examination the reaction was better marked. He concludes that well-marked differences of the agglutinating power undoubtedly exist between typhoid bacilli obtained from different sources, certainly when broth cultures are used and probably also, but to a less extent when cultures on solid media are employed. That such differences can not be considered sufficient to justify a differentiation into distinct varieties, but are rather to be explained as due to differences of present environment and to conditions of environments which have acted in the past on the race of bacillus, producing changes not fairly stable and permanent but liable to be again modified.

Annales de Dermatologie et de Syphiligraphie (Paris), October.

Sarcoma Caused by Foreign Body. W. DUBREUILH.—A piece of oyster-shell crushed into the right forefinger, was apparently eliminated in an abscess. A few months later a sarcoma developed at the spot requiring ablation. The microscope showed a chronic inflammatory reaction around a number of particles of oyster shell, each enclosed in a phagocyte, giant-cell or leucocyte, with no evidences of microbian action. Spitzer has related a similar case in which a sarcoma developed rapidly on the spot where a caterpillar had been crushed, with fragments of the hairs as the origin of the irritation.

Elastic Pseudo-Xanthoma. E. BODIN.—Only two other instances of this lesion have been recorded. The patient in the case described was 50 years of age and had noticed the cutaneous affection for thirty years, but it had caused no annoyance. The lesions were symmetrical, principally on the lower portion of the abdomen, in more or less confluent patches. The skin around, above and below was normal. Sections showed each lesion to be formed of small masses of granular substance, which responded to all the tests for elastic tissue, with connective tissue and large numbers of polynuclear giant-cells near the vessels and at the periphery of the lesion. Darier is inclined to consider the affection an elastoclasis or elastorrhexis.

Bulletin de l'Academie de Medicine (Paris), November 6.

Large Myeloplaxes in the Blood in Leukemia. CORNIL.—The autopsy disclosed that the cells present in the blood of the patient described, a girl of 17, were derived from the bone marrow. The large bone-marrow cells or myeloplaxes were formed in the marrow in great numbers and passed directly into the circulation with the eosinophiles. They had accumulated in the spleen, with effusions of blood, increasing its size and weight to a remarkable extent. They were also found in the liver and in the blood contained in the cavities of the heart.

Bulletin de la Soc. de Pharmacie de Bourdeaux, October.

To Preserve Samples of Milk. A. DUBOIS.—Samples of milk can be preserved for weeks for analysis or medicolegal

tests by adding to the liter 5 c.c. of a solution of 50 gm. of carbolic acid in 10 c.c. of 95 per cent. alcohol. It does not interfere with any of the tests, while it keeps the milk from souring or deteriorating.

Bulletin de la Soc. Med. des Hopitaux de Paris, November 1 and 8.

Pneumococcus Otitis from Contagion. E. HIRTZ.—The case reported illustrates the necessity of antiseptic prophylactic measures on the part of the attendants of a patient with pneumonia. A healthy woman became suddenly affected with a bilateral otitis media with copious discharge containing numerous pneumococci. The otitis commenced the third day of the patient's attendance on a patient with pneumonia. It was completely cured by appropriate treatment in twelve days.

Scapulothoracic Amyotrophy a Sign of Incipient Tuberculosis. E. BOIX.—Muscular atrophy of the scapulothoracic cap, the dome of flesh surmounting the apex of the lung, is frequently observed in advanced tuberculosis, but no one has called attention to it before as a sign of incipient tuberculosis. It is frequently to be noted before other symptoms are manifest. It is always more pronounced on the side more gravely affected, is unilateral if the lesion is confined to one side and proportionate in its extent to that of the lesion. Nine cases are described in detail showing the progress of the atrophy to be parallel with that of the disease, the muscles being apparently attacked by the infection from the very beginning of the bacillary invasion. It is possible, however, although not probable, that the muscles were congenitally defective and hence favored the localization of the infection.

November 8.

Acholuric Icterus. A. GILBERT AND P. LEREBOULET.—Under this term a pathologic condition is described which is characterized by a more or less pronounced icteric complexion predominating at certain points or generalized, with the constant presence of bile-pigments in the blood, but with no elimination of bile by the kidneys. It is distinguished by its familial and hereditary character, and its close kinship with other manifestations of chronic biliary infection. The hereditary predisposition seems especially marked among the Jews as is the case for autoinfections in general. Simple acholuric icterus may date from early childhood or birth, but may remain latent and unnoticed. In other cases, there may be cutaneous manifestations—frequently urticaria and xanthelasma. Or it may appear with digestive disturbances. In other cases nervous symptoms predominate—somnolence, neurasthenic or hysteric symptoms. Profuse epistaxis or menorrhagia may occur, presenting the hemorrhagic variety and there is still another, the rheumatic, in which there are pains in the joints, muscles or bones. The predominance of these secondary symptoms frequently causes them to be accepted as primary, and possibly an erroneous diagnosis of chlorosis may be made. The affection can be differentiated by examination of the blood. It is probably due to some slight chronic infection of the biliary passages on a biliary diathesis, sufficient to cause the icterus and the passage of the bile-pigments into the blood, but not to lead to their elimination in the urine. The prognosis would be favorable if it were not for the inherent, peculiar predisposition to more serious chronic, biliary infectious processes—lithiasis or cirrhosis—which are liable to occur later, possibly subsequent to some intercurrent disease.

Echo Medical (Lille), November 11,

Suture of the Bladder After Suprapubic Incision. V. CARLIER.—The only condition indispensable to the success of suture of the bladder is to ensure ample drainage. The suture is invariably successful in children, almost always in women and very frequently in men. Besides hemorrhage, profound infection from a calculus or neoplasm is the only contraindication in men. Carlier prefers suturing in two tiers, both of catgut. When the mucosa is infected he does not include it, but otherwise makes the suture through the entire thickness of the bladder wall. He always leaves a small drain in the lower corner of the abdominal wound, pointing toward the cavity of Retzius but scarcely touching it. He does not consider a permanent sound a necessity in all cases, and describes two cases in which a permanent sound became bent and closed the lumen of the urethra with consequent distension of the bladder. In all cases he has the urine drawn every three or four hours.

Simple Treatment of Strangulated Hernia with Gangrene. BRULANT.—Jaboulay published recently an account of a case in which a gangrenous patch 3 cm. in diameter, on the small intestine was left untouched and the strangulated hernia reduced after careful antisepsis and lavage with boiled water at 40 C. The patient made an uninterrupted recovery. Brulant describes a similar case, but, instead of reducing the gangrenous loop, he sutured the longitudinal slit in it and passed a roll of gauze under the loop which he left outside the abdomen for twenty-four hours. After this interval the intestine had become of a better color and he considered himself justified in replacing it without further intervention. The patient made a complete recovery in ten days. The hernia in this case had been strangulated only twenty-one hours. The operation was performed under very unfavorable conditions at the patient's home, and he recommends this method as far preferable to the formation of an artificial anus or to any protracted operation in the homes of the poor.

Journal des Sciences Med. de Lille, November 10.

The Sanitary Bulletin of the House.—The writer states that in Paris and Rheims efforts are being made to keep the sanitary record of each house, the condition of sewers, the cases of infectious diseases that have occurred in it, the disinfection practiced, etc. This may prove practicable for new houses, but even this is dubious, as all infectious diseases are not reported. Lemière advocates instead, the general adoption of the plan of disinfecting the house throughout whenever a new tenant takes possession. If this were done as a matter of course and exacted by the tenant as he now demands new wall paper, etc., there would be no reflection on the property nor on the previous tenants. Lemière proposes that small houses or apartments renting for less than $40 a year should be disinfected gratuitously by the municipality, while those renting from $60 to $200 a year should be disinfected at the expense of the owner. Every effort should be applied to simplify and cheapen the methods of thorough disinfection. If more generally practised, competition would soon solve the question of expense.

Presse Medicale (Paris), November 10.

Extraction of Foreign Bodies from the Ear. M. LERMOYEZ.—Lermoyez says that hundreds of lives would be saved every year if physicians, parents and nurses realized that a foreign body in the ear does no harm as long as it is not meddled with. The efforts at extraction cause the trouble. Filling the ear with olive-oil will kill insects, and the syringe will remove nearly all foreign bodies if exclusively applied, syringing toward the free space left between the foreign body and the walls of the meatus, or if this can not be discovered, toward the lower front of the foreign body. If the meatus is inflamed from efforts at extraction with a hairpin, etc., the inflammation should be allowed to subside. Lermoyez advocates chloroform for children and timid adults if an instrument has to be used, as any movement of the head is perilous. A retro-auricular incision is better than protracted intervention by the natural route.

Revue de Chirurgie (Paris), November.

Technique of Colostomy. H. HARTMANN.—The artificial anus made by the technique described for the relief of inoperable tumors of the rectum, has proved extremely satisfactory in the thirty cases in Hartmann's experience. No complications of any kind have been observed and the anus is continent to a certain extent. The incision is about 10 cm. long and exactly perpendicular to a line from the umbilicus to the antero-superior iliac spine of the ilium. The different tiers of the abdominal wall are separated and the lips of the wound drawn apart by retractors at right angles to the wound and at the top and bottom, making a square opening with one corner pointing to the umbilicus. A small buttonhole is then made in the peritoneum only large enough to admit the thumb and forefinger, in the search for the iliac portion of the omega loop, which is found by following the parietal peritoneum to the point where

it is reflected on the iliac fossa and then the iliac peritoneum, until arrested by the iliac portion of the omega loop or its mesentery. Pulling on the latter always brings the right loop. It is recognized by its knobs, the longitudinal band and the epiploic appendages. This loop of the pelvic colon is drawn well out and supported by a roll of gauze passed through the mesentery beneath. Gauze of another color is then packed lightly around beneath, over the lips of the wound, which it thus tampons. Neither sutures nor ligatures are required. Forty-eight hours later the intestine is opened with the thermocautery without anesthesia, the opening being not more than 2 cm. long, on the afferent end of the exposed loop. A warm, moist compress is applied, and two days later a gentle purgative is given, if there has been no bowel movement, irrigating copiously with tepid water afterward, and covering the wound with moist gauze and oiled silk. The tiny opening in the intestine gradually enlarges, and the mucous membrane becomes everted. On the sixth or seventh day the gauze surrounding the intestine is removed and by the tenth day the roll supporting it is taken out, cutting the latter close to the intestine and pulling each side out separately. The intestine gradually retracts and the mucous membrane everted at the small orifice spontaneously adheres to the lips of the wound in the skin, and by the twentieth day the anus is complete. A certain amount of constipation is desirable and the diet is adapted to this end. An evacuation is induced each morning with an injection into the proximal end. By observing all these apparently trivial points a satisfactory and practically continent anus is obtained, which will squeeze the inserted finger. In only one of the thirty cases was a slight supplementary autoplastic operation required.

Resection of the Median Nerve in the Forearm. PERAIRE AND MALLY.—A young woman was operated on for the removal of a diffuse, dissociating lipoma in the median nerve, requiring resection of 8 cm. of the nerve. After removal, all the movements of the fingers were retained and the patient resumed her occupation of seamstress without disturbance of any kind. The sensibility was normal nineteen months after the intervention, except for a patch of anesthesia in the center of the pulp of the forefinger. The flexor brevis pollicis had evidently assumed certain of the functions of the paralyzed antagonist and the abductor brevis.

Entering the Posterior Mediastinum. A. F. LLOBET.—Nassilov first suggested the possibility of this operation for lesions of the esophagus and Rehn has applied it twice on man. Llobet followed Nassilov's directions in an attempt to relieve a young woman with complete constriction of the esophagus due to the action of caustic. She had been fed by means of a gastrostomy done several months before and was in good condition. The fourth to the eighth rib inclusive were resected for 5 cm. and the esophagus reached without injuring any of the thoracic organs. It was incised along the two strictures found, but was not sutured. The wound was sutured in tiers and the operation was successful, the pleura and other organs remaining intact. The patient died eight days later, and the autopsy disclosed a purulent pleurisy, probably attributable to ascending infection from the stomach by way of the lymphatics. The mediastinum should be entered about two finger-widths to the left of the spine for the upper portion of the esophagus and on the right for the lower portion.

Revue Generale d'Ophthalmologie (Paris), September.

The Lashes in Cataract Operations. SCHIOETZ.—The skin is shaved as a preliminary measure to operations on other portions of the body, and the lashes should also be removed before a cataract operation. Shaving produces an injurious irritation and the stiff new growth disturbs the patient. Epilation is the only rational procedure in these cases. It does not produce any reaction on sound lids and the sprouting lashes are soft and fine. Several days should elapse between the epilation and the operation proper.

Sympathetic Ophthalmia in Spite of Enucleation. ABADIE.—A case is described in which sympathetic ophthalmia recurred fourteen years after enucleation of the eye primarily affected. It resisted all treatment until conquered by injections of three or four drops of a 1 per cent. solution of mercury cyanid injected into the stump of the enucleated eye. The optic nerve had probably been invaded by the primary infectious process, but the infection had remained latent for years.

Semaine Medicale (Paris), November 7.

Infection of the Uterine Cavity after Delivery. E. WORMSER.—Doederlein reported this year that he found the uterine cavity sterile in 83 per cent. of 250 women examined between the second and fifteenth day after delivery. In nearly every case in which bacteria were found, there had been temperature, subfebrile in most. Wormser instituted a parallel series of investigations at Basle, following Doederlein's technique as closely as possible, but he found that 84 out of 100 patients had bacteria in the lochia and yet there was no morbidity, only 24 having had temperature slightly above normal. His examinations were all made from the eleventh to the fourteenth day after delivery, as he considers it established that sterility is the rule during the first few days. In the immense majority of cases of infection, especially the fatal ones, the infection is of heterogeneous origin, almost always from imperfect sterilization of the hands of the midwife or obstetrician. The best prophylaxis of puerperal fever is, therefore, rigorous disinfection of the hands and the use of rubber gloves if the hands have been infected with virulent germs within twenty-four hours. It is equally important to disinfect the external genitalia. In case of rapid, normal birth it is unnecessary to disinfect the vagina—his statistics for the last three years are equally favorable with and without. But when delivery is delayed, especially after rupture of the waters which neutralize the vaginal secretions, and before any obstetric maneuver, he rinses the vagina copiously with 1 to 1000 sublimate solution. For the same reasons he makes an injection of 1 per cent. lysol in the uterine cavity after intrauterine manipulations. The practical results of bacteriologic examination—which is practiced at Basle in every case in which there is temperature for more than twenty-four hours—are the certainty that the fever is due to absorption or to some extra-genital cause if the lochia prove sterile. Bacteriologic examination saves much anxiety by demonstrating the absence of inspection or in other cases revealing its presence at the start of the process, before any clinical symptoms have appeared. There is little or no information to be derived from bacteriology in regard to the prognosis. Wormser relates instances in which fatal puerperal infection was evidently derived from a sluggish chronic infectious process elsewhere, a sinusitis in one case, a streptococcus pneumonia in another, and a migration of pneumococci in a third from the lungs through the diaphragm and peritoneum to the endometrium, producing a chain of lesions on its path.

Centralblatt f. Chirurgie (Leipsic), November 10 and 17.

Obliteration of an Intestinal Diverticulum Without Incision. C. BAYER.—A diverticulum was found in the invaginated portion of the intestine near the ileocecal valve during a laparotomy on a boy 2½ years old. The collapsed condition of the patient rendered rapid operating a necessity and the diverticulum was taken up in four folds, a thread passed through each, thus gathering the diverticulum into a small shallow space and obliterating it as a cavity. The child recovered and is now in perfect health.

Radiography of the Neck of the Femur. C. LAUENSTEIN.—Fine skiagrams of the neck of the femur can be obtained by placing the Roentgen light between the knees of the patient, who reclines on his back, the thigh flexed and abducted. The rays should be in the plane of the diaphyses of the femur and radiate toward the lower circumference of the neck. Comparison with similar skiagrams of normal individuals shows clearly any backward bending or other abnormal conditions impossible of detection by other means.

November 17.

Wire as a Permanent Substitute for Bone Defects of the Jaw. C. HOFMANN.—A piece of stout silver wire passed through the stumps of the bone after resection and the ends woven together, forms a remarkably simple and reliable means of substituting defects in the jaws or long bones. It can be bent to adapt it to the exact shape required. A wire is preferred that has a core of a less flexible metal than silver. The

wire prothesis has proved a perfect support in a case in which it was used to substitute a missing portion of the tibia 6 cm. long, also in a case of extensive necrosis of the lower jaw. The teeth fitted accurately together and the outline was normal.

Buried Wire Netting in Operations for Hernia and Movable Kidney. O. WITZEL.—The silver-wire netting recommended by Witzel as a support to be left permanently in operations, is proving extremely useful in sustaining a movable kidney. It permits the patients thus operated on to be up in ten to twelve days. Witzel never uses a ready-made netting, but always weaves it in the tissues from straight wire as required for each individual case. Less wire is needed and the netting thus made is more elastic.

Muenchener Med. Woch., November 13.

Plaster Treatment of Scoliosis. A. SCHANZ.—The position as corrected and maintained by the plaster dressing is the final result that can be attained in the treatment of scoliosis. In favorable cases this is nearly equivalent to a complete cure. These results can be surpassed only when it is possible to apply the cast in an over-corrected position, and this is now the problem to be solved. Schanz uses the plaster only in those cases in which satisfactory results are not to be anticipated from other treatment, the patients being at an age when the skeleton of the trunk is still sufficiently plastic. The treatment commences with mobilization of the spine, and not until this is attained is the plaster dressing applied. The correction is accomplished by free suspension and extension with occasionally lateral traction. The cast reaches from the trochanters to the neck, where it stops two finger-breadths below the mastoid process. It is renewed a few times and removed after twelve weeks. It is followed by a supporting apparatus and the correcting bed, tonic measures and all the tried and tested means of treating scoliosis and preventing recurrence.

Typical Laryngeal Neuralgia. G. AVELLIS.—The writer has had occasion to treat a number of cases of suddenly-appearing neuralgia of the larynx, in healthy, middle-aged persons, with remissions and exacerbations on swallowing, speaking, moving the head sideways, etc., with a typical painful spot at the emerging point of the superior laryngeal nerve and prompt recovery after administration of an antineuralgic and the local application of dry heat.

Subjective Troubles of Neurasthenia. L. HOEFLMAYER.—The principal groups of subjective troubles experienced by neurasthenics can be traced to disturbances in the functions of the intestines and neuroses of the vagus and sympathetic. The treatment is suggested by this etiology. Several cases are described, all of which were cured with gentle laxatives and the systematic use of opium, which has a wonderful effect on the heart disturbances and confirms their nervous character.

Wiener Klinische Rundschau, November 4 and 11.

Therapeutic Application of Catheterization of the Ureters. F. STOCKMANN.—In an experience of 250 cases in which Casper's method of catheterism has been used for practice, diagnosis or therapeutics, Stockman has never observed any harm from its employment. He describes four cases which had resisted all treatment and were cured by systematic catheterization of the ureters. He advocates trying it at least as a last resort before counselling nephrotomy in all cases of chronic pyelitis. In the cases reported he made from five to twenty and thirty-eight pelveo-renal injections of 10 c.c. of a 1 per cent. solution of silver nitrate every second or third day. There was no fever nor reaction. In one case the pain was completely abolished with three injections. In two the affection was consecutive to a gonorrheal cystitis; in two others it was caused by the bacterium coli. A fifth case was more of a reflex nature consecutive to an operation for the removal of uterine tumors.

Gazzetta Degli Osp. (Milan), October 14 and 28.

Relation of Neuroses to Anomalies in the Cerebrospinal Axis. A. DE GIOVANNI.—Every functional anomaly in the nervous system is dependent upon some anomaly in its evolution, either from atavistic degeneration, from variations in ontologic development or from anatomo-pathologic processes. From the slightest to the severest, most classic forms of neurotic manifestations, all are intimately connected with the evolutionary processes of the elements constituting the nerve tissues.

October 28.

Diagnosis of Pericarditis. F. SENNA.—The area of dulness over the heart is not always a reliable means of diagnosing an effusion in the pericardium, as the area may be small with a large effusion or extensive with no fluid. The intensity of the apex-beat and of the sounds of the heart is much more significant. In dubious cases it is well to have the patient lie on the left side to determine whether the lower limit of the dulness coincides with the point of the apex-beat.

Cure of Trophic Lesions by Nerve Stretching. A MONTINI.—A young woman had suffered for five years with a trophic lesion of the middle finger of the right hand, finally involving the entire hand. Years were wasted in all kinds of treatment until finally Chipault's method of nerve-stretching was applied. The median nerve was stretched several times at one sitting, through an incision 12 cm. long. The symptoms gradually subsided, and after a slight relapse the patient is now completely cured.

Change of Address.

A. R. Allen, Lincoln, to Bradshaw, Neb.
H. R. Baumgarth, Eldora, Colo., to 260 S. Halsted St., Chicago.
A. J. Black, Wilton, to Breckenridge, Mo.
J. F. Coleman, Montrose, to Leadville, Colo.
E. O. Church, Watertown, to Henry, S. D.
H. Cushman, 277 Ogden Ave., Chicago, to General Delivery, Washington, D. C.
Geo. E. Clements, Chicago, to 509 W. North St., Crawfordsville, Ind.
C. N. B. Camac, 550 Park Ave., to 108 E. 65th St., New York City.
C. H. Carlson, 406 Sutter, to 140 Geary St., San Francisco, Cal.
A. M. Dam, 74 Boylston St., to 215 Huntington Ave., Boston, Mass.
Robt. E. DeCen, 184 E. Genesee St., to 93 Red Jacket Parkway, Buffalo, N. Y.
A. O. Eckart, San Jose, to P. O. Box 360, Alameda, Cal.
B. Gilbert, Silver City, to Deming, N. M.
A. Gronerud, Beaver Falls, to Kennedy, Minn.
T. C. Hollister, Louisville, Neb., to 2002 Francis St., St. Joseph, Mo.
S. H. Halley, New York City, to Payne's Depot, Ky.
R. P. Johnson, 324 Lake St., Oak Park, Ill., to 1375 Washington Boul., Chicago.
W. H. Jenkins, Leavenworth Kan., to City Hospital, Kansas City, Mo.
A. Korn, 1835, to 1857 Madison Ave., New York City.
A. J. Lyerly, Wolf Lake, to Jonesboro, Ill.
Wm. Lowder, Ledyard, to New Providence, Iowa.
J. A. Leet, Eastfield, to Enfield, N. H.
F. E. Lock, 368 Grant, to 1133 Seneca St., Buffalo, N. Y.
J. A. Lippincott, Castleman St., to 435 Penn Ave., Pittsburg, Pa.
Jno. Moroney, Oswego, to 328 Baldwin St., Elmira, N. Y.
D. R. McKinney, Cowan, to Oakville, Ind.
J. Pestal, 2347, to 2338 Michigan Ave., Chicago.
C. L. Pearson, Asheville, N. C., to 151 Huntington Ave., Boston, Mass.
E. S. Potter, 174 W. 87th, to 214 W. 92nd St., New York City.
J. T. Reid, 112 Clark St., to 5525 Monroe Ave., Chicago.
Edwin Randall, Judson, Ind., to Wellington, Ill.
M. B. Strickler, 512 E. Capital St., to 815 M St., N. W., Washington, D. C.
C. F. Sherman, 1556 N. Halsted St., to 912 Irving Park Boul., Chicago, Ill.
W. T. Statkiewicz, 3315 S. Morgan, to 572 Noble St., Chicago.
Ida L. Schell, Elwood, Ind., to Mary Thompson Hospital, Chicago.
C. S. Siegfried, 378, to 326 Franklin St., Buffalo, N. Y.
John E. Walsh, 2 6th St., N. E., to 200 E. Capital St., Washington, D. C.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Nov. 15 to 21, 1900, inclusive:

George E. Bushnell, major and surgeon, U. S. A., member of a board in Washington, D. C., to examine officers of the quartermaster and subsistence departments for promotion.

Jere B. Clayton, lieutenant and asst.-surgeon, U. S. A., as Bushnell, above.

Robert P. Cooke, acting asst.-surgeon, orders directing him to proceed to Boyce, Va., for annulment of contract revoked.

Robert J. Gibson, major and surgeon, U. S. A., member of a board in San Francisco, Cal., to examine officers of the quartermaster and subsistence departments for promotion.

Louis T. Hess, lieutenant and asst.-surgeon, U. S. A., leave of absence extended.

H. Newton Kierulff, acting asst.-surgeon, now at Seattle, Wash. will proceed to San Francisco, Cal., and report by letter to the surgeon-general for annulment of contract.

William F. Lewis, major and surgeon, Vols., (captain and asst.-surgeon, U. S. A.), member of a board, vice Major Frederick P. Reynolds, surgeon, U. S. V. (captain and asst.-surgeon U. S. A.), in Manila, P. I., to examine candidates for admission into the medical corps of the army.

George W. Mathews, captain and asst.-surgeon 36th U. S. V. Infantry, discharged from the volunteer service in consequence of his having accepted a commission as first lieutenant and asst.-surgeon, U. S. A.

George J. Newgarden, captain and asst.-surgeon, U. S. A., sick leave granted.

Benjamin F. Pope, lieut.-col. and deputy surgeon-general U. S. A., as Major Gibson, above.

Erwin I. Shores, acting asst.-surgeon, previous orders revoked; on being relieved from duty at Fort Caswell, N. C., he will proceed to West Bridgewater, Mass., for annulment of contract.

Henry D. Thomason, major and surgeon, Vols., leave of absence granted; honorably discharged from the service of the United States to take effect Dec. 31, 1900.

Clarence A. Trueholtz, acting asst.-surgeon, from the Department of California, via Seattle, Wash., and Skaguay, to Fort Egbert, Alaska, for post duty.

Walter D. Webb, captain and asst.-surgeon 43d U. S. V., infantry, discharged from the volunteer service of the United States to accept a commission as first lieutenant and asst.-surgeon, U. S. A., to date from Nov. 12, 1900.

William L. Whittington, acting asst.-surgeon, from St. Joseph, Mo., to San Francisco, Cal., to accompany troops to Manila, P. I., and to report for assignment in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the navy for the week ended Nov. 24, 1900:

P. A. Surgeon A. W. Dunbar, detached from the *Monongahela*, and ordered to the *Vermont* for temporary duty with the crew of the *Wisconsin*, and then to naval hospital, Mare Island, Cal.

Asst.-Surgeon R. D. Williams, appointed asst.-surgeon, from Nov. 17, 1900.

Asst.-Surgeon J. T. Kennedy, detached from the *Monocacy* and ordered to the Cavite naval station.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Nov. 22, 1900.

P. A. Surgeon J. B. Stoner, relieved from duty at Quebec, Canada, and directed to proceed to Norfolk, Va., and assume temporary command of the service during the absence of the medical officer.

P. A. Surgeon A. R. Thomas, granted leave of absence for one month.

P. A. Surgeon H. W. Wickes, granted leave of absence for seven days from November 28.

Asst.-Surgeon L. E. Cofer, directed to rejoin station at Los Angeles, Cal.

Asst.-Surgeon W. C. Hobdy, granted extension of leave of absence for two weeks from November 3.

Asst.-Surgeon L. P. H. Bahrenburg, relieved from duty at Liverpool, England, and directed to proceed to New York City, and report to Surgeon L. L. Williams, at immigration depot for duty.

Asst.-Surgeon C. H. Lavinder, granted leave of absence for two months from Nov. 20.

A. A. Surgeon L. P. Gibson, granted leave of absence for ten days from Nov. 13.

Hospital Steward F. S. Goodman, granted leave of absence for thirty days from Dec. 19.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Nov. 23, 1900:

SMALLPOX—UNITED STATES.

Maryland: Prince George County, Nov. 9-14, 9 cases.
Michigan: Nov. 10-17, Detroit, 1 case; Grand Rapids, 1 case.
Minnesota: Minneapolis, Nov. 10-17, 3 cases.
New Hampshire: Manchester, Nov. 10-17, 10 cases.
New York: New York, Nov. 10-17, 1 case.
Ohio: Cleveland, Nov. 10-17, 19 cases, 1 death.
Tennessee: Memphis, Nov. 10-17, 1 case.
Texas: Houston, Oct. 31-Nov. 7, 6 cases.
Utah: Salt Lake City, Nov. 10-17, 20 cases.
Virginia: Alexandria, Nov. 18, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Oct. 20-27, 8 cases.
Brazil: Pernambuco, Sept. 23-Nov. 30, 15 deaths.
England: London, Oct. 27-Nov. 3, 1 case.
France: Paris, Oct. 27-Nov. 3, 14 deaths.
India: Calcutta, Oct. 13.20, 6 deaths.
Japan: Nagasaki, Oct. 11-20, 1 case.
Mexico, Vera Cruz, Nov. 3-10, 1 death.
Russia: St. Petersburg, Oct. 20-27, 3 cases, 3 deaths.
Scotland: Glasgow, Nov. 2-9, 31 cases.

YELLOW FEVER—UNITED STATES.

Mississippi: Brookhaven, Nov. 16, many cases; Natchez, Nov. 22, 2 cases.

YELLOW FEVER—FOREIGN AND INSULAR.

Colombia: Bocas del Toro, Oct. 31-Nov. 7, 3 cases; Cartagena, Oct. 28-Nov. 4, 1 case, 1 death.
Cuba: Havana, Nov. 3-10, 15 deaths; Matanzas, Nov. 15, 1 case at Hamilton Barracks.
Mexico: Vera Cruz, Nov. 3-10, 6 deaths.

CHOLERA.

India: Bombay, Oct. 16-23, 10 deaths; Calcutta, Oct. 13-20, 17 deaths; Madras, Oct. 13-19, 37 deaths.
Russia: Siberia, Novotievsk, November, reported.
Straits Settlements: Singapore, Sept. 15-22, 1 death.

PLAGUE.

China: Hongkong, Oct. 6-13, 4 deaths.
India: Bombay, Oct. 16-23, 74 deaths; Calcutta, Oct. 13-20, 15 deaths; Madras, Oct. 13-19, 1 death.
Japan: Kobe, Oct. 8-23, 2 cases; Osaka, Oct. 8-23, 3 cases.

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